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ADDRESS.

CLOSING EXERCISES OF THE SESSION 1895–96, ARMY MEDICAL SCHOOL.

INCLUDING AN ADDRESS

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The closing exercises of the second session of the Army Medical School were held in the hall of the Library of the Surgeon-General's Office, Washington, D. C., on Friday, March 13, at 3 P.M. Card invitations had been sent out and by the hour mentioned the medical profession of the city of Washington was well represented in the audience with many War Department officials and a large contingent of ladies. The library for the time being, put off its air of silent study and assumed quite a gay appearance, as the sunbeams through the west windows lit up the colors of the flags which draped the walls and made brighter the bright eyes and interested faces which met the gaze of Colonel Charles H. Alden, President of the Faculty as he arose to open the proceedings.

It is not necessary, he said, to go into any extended account of the school; but as some might be present who would like to know something of the work it is doing, he would state briefly that the school is a post-graduate institution designed to teach the young medical officer on his entrance into the service, and before he goes out to his first duty, branches that are of especial importance to him as an army medical officer. These are branches either not taught in the general medical school from which he has graduated, or whose application to army service needs to be brought out. Further, its purpose is to familiarize him as far as practicable with the new conditions under which he is about to be placed, and the duties he will be called upon to perform. The school is open also to medical officers of older date who may be able to avail themselves of its privileges.

Established in June, 1893, by order of the Secretary of War on the recommendation of Surgeon-General Sternberg, its first session was held from November, 1893 to March, 1894. No session was held in the winter of 1894–95, as the number of medical officers had been reduced, and there were no new assistants to enter the school. The laboratories, chemic and bacteriologic, were open, however, and several medical officers availed themselves of the instruction given therein. The present session began Nov. 18, 1895, and lasted four months.

The teachers of the school are medical officers of the army stationed in Washington and vicinity, who give instruction during the session in addition to performing the regular duties to which they are assigned. During the session now closing, in addition to the five recently appointed medical officers who entered the school immediately after passing the examination for admission and receiving their appointments in November, 1895, four older assistants have been in attendance, one having taken leave and come to Washington for the purpose, the others, being stationed in Washington and vicinity, have taken such part of the course, especially the laboratory work, as their regular duties admitted. Two medical officers of the District of Columbia National Guard and one from the Massachusetts Volunteer militia have been present during a part of the time and received instruction in some of the subjects treated, especially the lectures and hospital corps drill.

To carry out the purposes of the school, the following courses of instruction were laid down in the order establishing it, and have been carried out during the past session: On the duties of army medical officers; on military surgery; military medicine; military hygiene; sanitary chemistry; clinical and sanitary microscopy, including bacteriology (chemistry and microscopy being laboratory courses); hospital corps drill and first aid. It has been the object of the lecturer on the duties of medical officers to familiarize the student officer with his future official duties so far as practicable; to give him sound notions as to military discipline and his true relations to the commanding officer and others in the military service, as to his proper position as a sanitary officer, the obligations involved in the care of his patients, and correct ideas as to his responsibility for the care of public property entrusted to his charge. He was given practical instruction in the examination of recruits, in making sanitary inspections of posts, in preparing certificates of disability for discharge, and other important papers. The course in military surgery included the care of wounded on the battlefield, their transportation from the scene of action, hospital administration, an account of modern weapons, the wounds they cause and their appropriate treatment, according to the latest and most approved methods. The lectures on military medicine treated of diseases due to the aggregation of men in armies, camps and garrisons, to exposure to climatic extremes, and to infectious diseases and the mode of prevention and treatment. The course on military hygiene included the subjects of pure air, water and food, their impurities and the source of them, the dangers resulting from their contamination, and the methods of detecting and remedying the evils resulting therefrom. The important subjects of the disposal of sewage, of climatology, quarantine and public health, were also treated of.

An examination of the order of daily duties will show that the lecture courses consumed a brief portion of each day, being held from 3 to 4 P.M. A larger part of the time of the students was passed in the pathologic and chemic laboratories. The instruction in the former, lasting from 9 to 12 daily, was of a very important character, covering the study of the forms and life history of the more important

disease-producing bacteria, so as to enable the medical officer to recognize the existence of the germs of infectious diseases and to apply the most approved methods of destruction or exclusion. When we consider the number of diseases now recognized to be due to specific germs, their widespread diffusion and their ravages, one disease alone, tuberculosis, causing more deaths than any known disorder; when we consider that an accurate knowledge of the germs causing suppuration and septic infection has alone made possible the triumphs of modern surgery, we will see that the prominence given to this laboratory work is amply justified by its importance. The course on sanitary chemistry lasted from 1 to 3 P.M. each day, and included the analysis of air, water and food, the detection and estimation of their impurities and adulterations, the detection of poisons, and the study of the animal fluids. It is designed to fit the medical officer to become the sanitary expert and inspector of the command to which he may be in future attached. The instructor in hospital corps drill, after giving the students a preliminary training in the school of the soldier so as to improve his military bearing, took up litter and ambulance drill, first practically with the students as litter bearers and afterward as instructors of the men in the hospital corps company at Washington Barracks. The methods of first aid were also taught, and finally the young officers were given instruction in riding at Fort Myer, Va., through the kindness of the commanding officer and one of his lieutenants.

In addition to the regular courses referred to, a short but very important course on military law was delivered by Lieut.-Colonel G. B. Davis, Deputy Judge Advocate, Professor of Military Law, U. S. Military Academy, West Point, N. Y.; Dr. Robert Fletcher, F.R.C.S., principal Assistant Librarian, Surgeon-General's Office, delivered an instructive and interesting lecture on the Army Medical Library; and Professor Stiles of the Department of Agriculture repeated his valuable instruction on Parasites in Man, given on a former occasion. The class has received clinical instruction in mental diseases at the Government Hospital for the Insane, Washington, D. C., through the kindness of the Superintendent, Dr. W. W. Godding; and a practical course in operative surgery has been given by the Professor of Military Surgery.

This brief summary will give an idea, though a very imperfect one, of the subjects treated, and will show that the time of the student officer has been fully occupied.

It has been a source of great satisfaction to the Faculty of the school, and I am sure it must be to the far-seeing officer at whose instance it was established, to find that the young medical officers who have gone out from the school have acquitted themselves most creditably, and in such a manner as to show that the training here gained has been a positive advantage to them, and not only so, but that these young officers have become teachers in turn, and have communicated the instruction given them in bacteriologic and chemic manipulations to their comrades who have been less fortunate than themselves in opportunity for instruction. There is every reason to believe that the members of the class now leaving the school will acquit themselves with equal credit. They have, as student officers, been as a rule prompt in attendance and attention to their duties, and displayed commendable diligence and an intelligent interest in their work. They have the warmest wishes of the Faculty for their future welfare and success.

Colonel Alden then introduced Dr. John H. Brinton, Professor of Surgery, Jefferson Medical College, Philadelphia. Dr. Brinton, during the progress of our civil war, had been requested to deliver an address at the inauguration of a proposed army medical school. All was ready in 1863; but the projected school did not receive final official approbation and failed to become a reality. Not until thirty years later did it become established and now he is about to address this school. Speaking of the failure of the effort to establish it during the war, Dr. Brinton said:

DR. BRINTON'S ADDRESS.

The disappointment was great to those who had anticipated much from the proposed school and who believed that, once established, its influence would be most happy and far-reaching. No one felt this regret more deeply than the speaker, but at the same time ever with the earnest hope and firm conviction that the establishment of an Army Medical School was but a matter of time; that sooner or later its necessity would be recognized, and that the day would come when the Medical Department of the Army of the United States would stand, as regards medical education, fully abreast with the medical services of nations beyond the seas.

And it has come. How do you know? By the wise direction of the Secretary of War, at the recommendation of a Surgeon-General, who combines true military zeal with the highest scientific professional attainments. These efforts of the chief of the department to elevate and maintain the professional status of the medical corps have been nobly seconded by the President and Faculty of the Army Medical School. There is no more difficult and responsible post than that of teacher, and our country is most happy in commanding in this school the services of a faculty who to past experiences in active warfare, add the judicial influences of thought and study. That under such impulses the school has prospered and has assumed its true position, this public gathering, this official presence bear ample witness.

Through personal kindness, and I fear unwise partiality, I have been asked to say to you, members of the graduating class, a few words. Let me at once confess that in accepting this flattering and delicate duty, I have been influenced by the recollection of many kindnesses I have received from cherished friends in the old army and by the desire, almost craving, to renew with them, or their successors, my past associations.

In the presence of such an audience I scarce know how to choose my words, yet it must not be forgotten that we come here to assist in the closing exercises of a session and to commemorate the passing out of you graduates into the active duties of your calling. Your functions as military medical officers will be discharged under circumstances widely differing from those of your predecessors, and these conditions have doubtless been bettered to some extent by the lessons of a past experience. Are they not in some degree due to the practical and varied teaching of the great war through which our nation passed thirty years ago? What has been for the Medical Department of the Army the professional output of the war of 1861? Apart from the vast and wide-spread individual experiences, the

example and memory of which can never die, we have the Army Medical Museum, its catalogues and literature, and the circulars, medical and surgical, of the Surgeon-General's office; above all we have the massive volumes of the Medical and Surgical History of the War, known, read and studied the world over.

I think, too, that the library of the Surgeon-General's office may fairly be regarded as one of the secondary results of the war, and from the library under the supervision of its accomplished Director, Dr. Billings, and its learned Librarian, that courtly man of letters, Dr. Fletcher, sprung its inestimable catalogue and I may venture to add the *Index Medicus*, the value of which to medical writers now and in all time can not be overrated. With all of these productions of the war you are conversant. I trust, nevertheless, that it will not be tedious to you if I briefly refer to the small beginnings of one (the Museum) and consider in a few words its influence upon the army surgeon and his work.

The official history of the Army Medical Museum has long since been published and its catalogue prepared under the direction of the Surgeon-General in 1866, is familiar to you all. It is not, however, generally known that in January, 1863, a preliminary catalogue was issued, setting forth the character of 1,349 objects which had been collected for the Museum in the five months since its establishment in August, 1862. Of these, 985 were surgical, 106 medical, and 133 were missiles. The curator of the Museum at that time stated in his prefatory report that the catalogue was offered simply as a numerical list of objects in the Museum, and that no attempt had been made to classify or describe them; that work must be deferred for the future when it would demand volumes.

On the title page of the original copy of this catalogue is the manuscript entry: "Many specimens from battle-field sources are in this catalogue credited to medical officers in the field who were opposed to the collection of specimens. By this means opponents often become later enthusiastic contributors to the Museum." This undoubtedly was a pious fraud, harmless, but useful.

The proposed establishment of the Museum was announced in Circular No. 2, Surgeon-General's Office, May 21, 1862. Its title at first was the "Military Medical Museum," but in the catalogue published Jan. 1, 1863, the name "Army Medical Museum" appears, and since that time the collection has been so designated officially. When its foundation was decided upon circular letters were sent to medical officers of the regular and volunteer corps and to all medical officers in charge of field and permanent hospitals setting forth the object of the Museum and inviting their earnest and intelligent coöperation. It was not intended to impose upon them the labor of preparation, but only to command their services in saving and forwarding to the Surgeon-General's office as many specimens as could be procured and saved from the vast number of daily casualties in the Army. By many of the most intelligent officers these orders were received and executed in good faith; by others they were neglected, and not a few looked upon the project with derision and stigmatized the future Museum as "a collection of old bones." At first, too, there was some natural aversion on the part of the wounded soldiers and their friends. The topic was a ghastly one, yet often a streak of humor would appear. I can recollect one instance of a very rare and carefully studied case of leg injury. The patient died and was buried in soldier fashion. His bosom friends sat up and watched to prevent the much-feared desecration. The nefarious collector came. So great was his earnestness, so deep his sympathy, so moving his eloquence, so unanswerable his argument that patriotic bones rest better in Goverment cases than in a Virginia trench, that the stony hearts of the watchers were softened. Slowly and mournfully the former comrades marched to the burial spot. The leg was exhumed, the bone taken out and carefully inspected by the mourners, the chief of whom remarked, as the procession sadly moved campward, "After all, John would rather be of some use to the very end." *Quis custodiet custodes?*

It was no easy matter to popularize, if one may use the expression, the surrender to the Surgeon-General's office human specimens. It was only when medical officers in field and hospital felt that the Medical Department was really in earnest, that a great work was in progress that objects of the highest interest to military surgery and to the wounded of the future, were in contemplation, then only was the work of preservation and collection efficiently carried on. To obtain specimens accruing after action on the field, and in field, division and corps hospitals, the curator and his assistants were constantly sent to the front. The find, the aggregate of the operating tables roughly cleaned, were packed in barrels and forwarded to Washington. By General Order No. 116, May 22, 1863, Headquarters Military District of Washington, the schoolhouse on H street, between Thirteenth and Fourteenth, owned by Mr. Corcoran, had been taken possession of by the government and turned over to the Medical Department for the use of the Army Museum. This edifice and the outbuildings attached were immediately fitted up by order of the Acting Surgeon-General as a museum and working laboratory, and on Sept. 1, 1863, the Secretary of War authorized the transfer of the specimens from the room of the Surgeon-General's office to the newly selected Museum. The beginning of the Museum in August, 1862, was very modest, consisting of three dried and varnished specimens placed on the little shelf above the ink stand on the desk of the recently appointed curator. These were duly inspected and admired by the office officials and for a while, as a novelty, they had numerous visitors from the surgeons on duty in and around the city. "How is the Museum?" was the joking question of the day, and I doubt if anyone seriously believed that from this apparently ridiculous beginning would arise the magnificent Military Medical Museum which I believe influences and will influence to no slight degree the future of American military surgery.

But a start had been made, professional zeal had been excited, and the idea got around that perhaps after all there was samething in the notion that even "dry bones may live." Soon kegs and boxes from the field and general hospitals began to arrive. The preparer of the bones, Friederich Schafhirt, who under the unpretentious name of hospital steward, had been procured from the University of Pennsylvania, where he had long labored as an assistant to the immortal Leidy, was overworked. And here let me pay my tribute of respect to the memory of one who at this time did so much for the Museum, and without whom, perhaps, the collection had not then taken shape.

When specimens were gathered at the front their

preservation and transportation were no easy matter. The former involved the use of alcohol or whisky, at all times, within army lines, a fluid most apt to suffer mysterious leakage. "Tapping the Admiral" is a well-known nautical phrase, and it is said that in 1848 or 1849 when certain bodies of Russian Cossacks camped near the museum of Professor Hyrtl the alcoholic exosmosis from his jars was difficult, or perhaps easy, to explain. With us, indeed, it often happened that whisky on its way to the front, even though in barrels marked benzine or petroleum, was sure to leak, and kegs reaching their destination would show ingeniously plugged gimlet holes. How and why this was done I learned only the other day from a tottering veteran who had once been on duty on the line of the Aquia Creek Railroad. His explanation of the gimlet hole, and inserted pipestem seemed credible, and the twinkle of his eye, suggested the motto: "Experto Crede." But the stimulant had other than preservative qualities and the Museum was well supplied with it in this wise: In war times, in Washington the provost marshal's department confiscated all wines and liquors brought to the city save on official permit, and all confiscated and condemned packages were turned over to the Museum for the distillation of pure alcohol, which was carried on in a lot adjoining the laboratory. So many a basket of champagne and box of Rhine wine and dozen of liqueurs found their way into Schaf hirt's insatiate still. Now and then a keg of cherry brandy or the like, peculiarly soothing to military nerves, was saved and served as a ready passport for the Museum Messenger in search of pathologic specimens. In fact, in most commands he was a welcome guest and a dispatch announcing his coming was honored as if it were the order of a secretary of war. Ah, I can see now the honest face of Sergeant K., who, with the compliments of Captain M. of the 105th Cavalry, had ridden down with two or three led animals to serve as escort and guide. How carefully the kegs were lashed on the pack saddle of the old roan, "and this keg is for the officers' mess, and this for the men's, and sure, sor, we must be riding now, if ye would reach camp and be getting something warm before taps."

Occasionally it would happen that a specimen would be contributed to the Museum by its former owner. No. 1335, resulting from a leg crushed by a twelve-pound shot at Gettysburg, and for which thigh amputation was performed, was forwarded to the Museum in an extemporized coffin on which was tacked a visiting card "with the compliments of Major General D. E. S., United States Volunteers." But all were not so complaisant. On one occasion a man from the ranks demanded the return of a limb, an arm, I think. He was informed that the member in question could not be given up. "But it is mine," said he, "part of myself," earnestly enforcing his claim, and his demand to the lay mind seemed reasonable. Yet to surrender a specimen was very much like yielding a principle. "Stop," said the quick-witted young assistant curator to the claimant, "for how long have you enlisted?" "For three years or the war." "Then," replied the official "the contract is not yet terminated, come back at the end of the war or at the expiration of your three years' service and you can have your bone. In the meantime one detachment of you is stationed in this Museum on government duty, the other wherever you may be ordered. Such is the opinion of the Attorney General." The reply and its reason seemed conclusive, and the bone remained in its place.

But enough of old-time anecdote. Let us consider the Museum, not as a collection of curiosities or objects of historic interest, but rather as a teaching school of the first grade. For in it, I believe that lessons of much value in military medicine and surgery may be learned, which nowhere else in this country can be so fully illustrated. As an adjuvant to the Army School its influence must be potent, for among its contents can be found exhibitions of pathologic conditions of most of the diseases and injuries met with in the warfare of the past. Look at the jars in which are shown the lesions which marked the so-called typho-malarial fevers. How mutely eloquent they are, how much they tell you of the soldiers of our great war, how they lived, how they suffered, how and why they died. Study these preparations in the light of our recent knowledge of sepsis and bacteriology, and we can almost see the country through which these men marched, and we fancy we can inhale the air they breathed, and taste the water which they drank. Indeed, and we can imagine every noxious influence by which they were surrounded. Then we cease to wonder that so many perished; we rather marvel that so many lived through it all. The thoughtful student of to-day will ask himself how these unhappy conditions can be minimized or warded off hereafter, and the professors in your school will tell you and impart to you a knowledge which we never had. Look at that gunshot splintering near the knee condemned at first sight because of the joint fissure; then amputation was the only remedy. Now, thanks to Sir Joseph Lister and the outcome of his teachings, wrought out by busy brains, and by none more patiently and successfully than by him who heads your corps, the limb fares otherwise. Salvation, not destruction, is the motto to-day. Compare the small-arm missiles of the past with those of the present time, the leaden bullet with the jacketed projectile. Consider their relative velocities, ranges, penetrative powers and modes of flight, and almost at a glance their wound tracks will be understood. The Museum makes easy of comprehension the phenomena of the modern gunshot injuries. The past helps us to judge the present, and almost foresee the future. These truths, too, are easily learned, for they are taught as objective lessons. In the quaint language of three centuries ago: "For speech, how perspicuous and eloquent soever it be, it can not so vividly express anything as that which is subjected to the faithful eyes and hands." As for the military surgery of the future, no one, however great his experience, may speak with certainty; he can but forecast, basing his guess upon deductions from the relics of past wars. These are even better than books since they permit, indeed invite, an individual judgment. Nowadays the teachings of books in our profession soon merge. The ink of an edition is scarce dried ere its doctrines become obsolete. New modes of study are found out and even as I write, the magic subtlety of Röntgen's ray would seem to banish touch and substitute the sense of vision. What next?

In an elaborate address by one who has shed much luster on American surgery, Professor Senn, the conservative character of the surgery of future battle-fields is strongly dwelt on. In his opinion the dangers of hemorrhage and infection will be lessened by improved hemostasis and by the enforcement of more thorough

asepsis and antisepsis. It is quite probable that the hemorrhage caused by the modern projectile will be greater than that produced by the old-fashioned round or elongated Minie ball, as it was called. The greater velocity of the former and its increased axial rotation will give to the resulting wound more of an incised nature. However, as it will cause less bruising and laceration, the risk of secondary bleeding will be diminished. To prevent the infection of battle wounds doubtless every immediate precaution will be taken, but I fancy that the fighting line must be much as in the past, and despite the soldiers' antiseptic package that the real, effective surgical antisepsis will be exerted at the field hospitals in the rear. Here the wounds will be carefully examined, their diagnosis arrived at, the prognosis established and the operations, treatment and dressings deliberately and definitely entered upon to be persistently carried out. Many of the sad results which have followed the injuries of war must be avoided in times to come. This humane tendency will grow greater with fresh knowledge and with that increased and more efficient skill which knowledge brings, and so the condition of the wounded will be ameliorated. Think what it was in 1535 when Paré writes of the campaign of the French against the army of the German Emperor at Turin: "We entered the throng in the Citie and passed over the dead bodies and some of which were not yet dead. We heard the cry under our horses' feet which made my heart relent to hear them, and probably I repented to have forsaken Paris to see so pitiful a spectacle. Being in the Citie I entered a stable thinking to lodge my own and my man's horse, where I found four dead soldiers and three which were leaning against the wall, their faces wholly disfigured and neither saw nor heard nor spoke, and their clothes did yet flame with gun powder which had burned them. Beholding them with pity, then happened to come an ould soldier who asked me if there were any possible means to cure them. I told him no. He presently approached to them and cut their throats without anger. Seeing this great cruelty I told him he was a wicked man. He answered me that he prayed to God that whenever he should be in such a case that he might find some one that would do as much to him that he might not miserably languish."

And here at Turin, Paré obtained by gifts and presents from a surgeon famed above all others for curing gunshot wounds, the recipe for his excellent balsam. He thus gives it: "Boil young whelps newly pupped, in oil of lillies, prepared earth worms with turpentine of Venice," and adds, "then was I joyful and my heart made glad that I had understood his remedy." Great stress in those old days was laid upon the composition of these "vulnaria," or wound powders, ointments and balsams from which much healing value was expected. I would have you note that in the decoctions of worms, puppies and geese there was a plentiful admixture of turpentine, aloes and myrrh, poppy, hyoscyamus and gentian, tolu, red wine and oil of juniper, and here we have articles of real therapeutic and almost antiseptic value. Such were the accompaniments of war three centuries ago; such was the surgery at the hands of one of the princes of our craft who, conferring great gifts on humanity, was destined to professional immortality. Think of the import of this sentence regarding amputations: "The ends of the vessels lying hid in the flesh must be drawn forth. To conclude, when you have so drawn them forth, bind them with a strong double thread."

Quite recently I was told by an aged and venerable friend this, which may not be irrelevant: Fifty years since in the Philadelphia library was a small medical folio on the side of which was stamped the royal arms of England. It had been bequeathed to the library by a book collector, but a visitor from London recognized it as the former property of the British Museum, from which it had been stolen, and it was returned. In it was the following: "Take three blind puppies, put them in a mortar and pound them well, add" so and so, what at this long interval my informant had forgotten. In a marginal manuscript note, identified as the handwriting of King Charles I., were these words: "Tried this on the Prince. It did his business."

As one with the experience of later years walks through the National Military Museum, he can not fail to be impressed with the lessons which confront him on every side. He feels that the mutilating amputations and resections once so common must in future wars be greatly diminished in proportion. The new projectiles are far more humane in their effect upon the bony system. They penetrate rather than crush, and shattered wounds even when they occur will be, thanks to antisepsis, far more amenable to conservative treatment than of old. A limb may be saved and a joint preserved when once it would have gone as a matter of course, and our attempts at preservation now cease to be experimental, and have become recognized treatment. Professional opinion has changed, old judgments are reversed, new lines of study opened, new conclusions arrived at. These changes have been gradual but steadily progressive. In the aggregate they amount to revolution. I have often wondered what would be the impression of those of our brethren who have gone to rest twenty, fifteen, ten years ago, if they could now arise from their dust and view the existing state of the art once theirs. They would indeed find old manners changed, old customs gone, and realize that the greatest savant of yesterday would be the merest tyro of to-day.

Following out this idea of incessant and bewildering change, let me ask you to reflect for one moment on the marvels which have marked the onward strides of abdominal surgery, for in this direction perhaps first and most decisively has antisepsis achieved her victories, and these successes have been reached through the practice of an aggressive surgical interference, guarded by a strict precautionary antisepsis. Years ago, and not so many either, the unfortunate recipient of a penetrating wound of the abdomen was looked upon as little less than a dead man; his way was through that portal which those who enter leave all hope behind. Look at these well-weighed figures of our Otis in the Surgical History of the Rebellion, 3,717 cases, 3,031 deaths, a mortality of 87.2 per cent. In the British army of the Crimea the death rate was over 92 per cent. and in the French army of the East this rate was almost the same; in the German army at the siege of Paris, the rate was 94 per cent., and in the French army at Sedan an equal ratio. It is, of course, impossible now in times of peace to make comparison with the results above quoted, but I feel assured that hereafter when comparisons may be practicable the finding will be very different, for have we not laparotomy and all of the abdominal technique, washing and drainage, intestinal anastomosis, and the ectomies? From the practice spring fresh confidence

and firm convictions and a new born courage, the offspring of these convictions. We know how great a success has crowned the endeavors of civil surgeons and we may rightly conclude that when the time comes a like result will be attained in military practice, for there must be a new surgery of the battlefield. How different was it in pre-antiseptic days. I can recall memories far too sad to dwell upon. I can almost see before me the phantoms of the many who have perished from just such injuries as those alluded to. With every wish to help them and with every known effort so little in reality was done. The best knowledge of that day could not even accomplish a respectable diagnosis; the treatment was expectancy with folded hands. The quoted figures speak for the results. The idea of searching for a bullet in a penetrating abdominal wound was not entertained. In the solitary recorded instance in which a world-famed operator asked "why not open the cavity and search for the ball," the very question was regarded as an evidence of genius gone astray and the suggestion was not even considered. Yet to-day the medical student in his second year could rightly formulate the treatment, now laparotomy, hemostasis, packing, drainage.

So, too, in regard to chest injuries. The experience of the last few years has shown that portions of the ribs and chest walls can be raised or even removed without injurious consequences. Estlander's operation is familiar to every surgeon and it can not be doubted that this operation may be so modified as to permit access to the pleura and the subjacent lung. I believe that deeply placed foreign substances will be traced, detected and removed and that hidden abcesses may be aspirated and emptied. Indeed the surgery of the chest is in its infancy, and when developed must prove life-saving. Instances of gunshot wounds of the chest occur to me, in which postmortem examinations revealed the presence of bullets which I am sure could have been found and removed by the methods of thorectomy alluded to. The pity was that we did not know; you do.

The internal study of the skull cavity is not beyond our powers, and when the cranial walls are perforated by gunshot or otherwise a suitable craniectomy is indicated. The sources of internal bleeding can be ascertained and arrested by ligation, pressure or otherwise, and at the same time foreign bodies may be taken away. In more chronic cases, abscesses may be located and opened and all this can be done, as many recent brain operations have shown, without unjustifiable risk to life. More could be added but time and place forbid. Thus in a few words I have sought to indicate something of the progressive nature of your art and show you what great changes are being gradually but surely wrought in surgery, and that by these the character of the military surgery of the future must be largely altered. You, as its servants, will be expected to know far more than your predecessors. You will be required to have a deeper knowledge of the modern doctrines of pathology and to comprehend their practical application in your every day work. All of these matters have been exhaustively presented to you by able teachers.

When you leave this school and enter upon your active duties, you will assume higher responsibilities than those which usually fall to young medical officers. In addition to the instruction which in civil life precedes the acquisition of your professional degree, you have been especially taught many details which will affect your military life. You will thus be spared some of those hard lessons of laborious and dearly bought experience which have fallen to your predecessors. You now know to some extent, what is before you, what you have to do and how it is to be done. In a professional point of view, you have had exceptional opportunities. You have enjoyed time for reflection and have been able to weigh well the teachings of the civil school and under the supervision of your military professors to adjust your previously acquired information to the exigencies and changing phases of military life and I believe, moreover, that perhaps for some of you there may be a new function not yet covered by any paragraph of regulations. I mean a teaching function. I think that going hence, rightly having used your opportunities, you may be instrumental in disseminating the garnered experiences of many lives. You may become missionaries of military medical science. I pray God, that one day some great Apostle may issue from this school who may by practice and by precept, so spread its name and reputation that men shall turn and look hither with reverence.

Ah, graduates, young officers, I almost doubt whether you fully estimate the advantages of your position. You enter upon your professional life at a moment when the bright rays of advancement illuminate the whole horizon. We know and see enough to feel that a future which no man can foretell, is dawning upon our profession. Oh, that I could throw from my shoulders the burdens of the last forty years and be among you and with you and of you; for I see, and not darkly, that your corps has a glorious future, a future which it deserves and has earned in the past, by self sacrifice and conscientious devotion to duty.

As a result, great institutions, the Museum, the Library and now the Army Medical School have grown up, they have called forth the admiration of the professional world and stand as enduring moments to the zeal, industry and learning of the Department. In this good report of your corps you will share. Do more, contribute to its advancement. Be jealous of its good name. In every proper way, seek to further its interest. Especially let your professional work be earnest, persistent and well directed so that your names may not pass away. Do not live in vain. There was something noble in the last words of that good old surgeon "My lamp is almost extinguished, I hope that it has burned for the benefit of others."

Let such be your life purpose. Remember that you have a triple duty before you: As members of our noble profession, let suffering humanity be your care. As officers, serve faithfully and devotedly; thus honorably will you uphold the flag of your country. As physicians, officers and gentlemen, be ever true to the dear old medical Department of the Army of the United States.

Dr. Brinton's address was warmly applauded at its conclusion, and indeed during its progress the audience showed its interest in the speaker's words and responded to his humorous paragraphs with appreciative smiles.

Senator Hawley then delivered their certificates to the members of the graduating class in the order of their standing at the recent examinations on the subjects embraced in the curriculum. This order was not that in which the young men entered the service

in October last; for while they then stood: 1. J. T. Kilpatrick, 2. J. H. Stone, 3. I. W. Rand, 4. P. C. Fauntleroy, 5. J. S. Wilson, their standing at the close of the session was: 1. Stone, 2. Rand, 3. Fauntleroy, 4. Kilpatrick and 5. Wilson. Senator Hawley spoke in his usual easy but sympathetic and earnest manner. He remarked that he had been saved a deal of trouble by the previous speaker as it had been his intention to refer to the great advances in medicine and surgery that had been made during the past few years in order that he might congratulate the young officers upon having their lives before them or upon not having lived earlier. He reminded them that although they had completed their school life they were only beginning their course of study in the practical work of life. Progress is rapid in this age of the world, and earnest and constant study is required to enable one to keep up with its advance. Can anything be more wonderful than what has happened in recent years even in the life-time of many who are yet young enough to take a hand in the work? Here General Hawley took a rapid and humorous survey of progress in many fields relating to medicine and surgery from the first administration of ether as an anesthetic in the operating room of the Massachusetts Hospital to the shadow pictures produced by the Röntgen rays. He then referred to the altered and elevated position of the army medical officer as compared with his status during the Napoleonic wars. Out of the memory of his own war experiences he paid a high tribute to Dr. Francis Bacon and Dr. George C. Jarvis, both of the 7th Connecticut Volunteers, for the excellent sanitary condition and the low sick and mortality rates that prevailed in his regiment and brigade. These officers did good work in caring for the sick and wounded; but it was in preventing sickness, in protecting the men from insanitary conditions and preserving the fighting strength of the command at its maximum that the work of these officers was specially commendable. Senator Hawley then congratulated the student officers on having had the advantages of the Army Medical School and concluded by wishing them all success professionally and socially.

At the close of this address the audience broke up into groups and inspected the library and museum and the lecture room and laboratories of the school. In the evening there was a social gathering at the residence of Surgeon-General and Mrs. Sternberg, at which the members of the class had an opportunity of becoming acquainted with the medical officers of the Army and Navy stationed in or near the city and the ladies of their families. This reception constituted a pleasant close to their months of study and a social send-off to be remembered with pleasure in after years.

ORIGINAL ARTICLES.

THE TREATMENT OF RETRODEVIATIONS OF THE UTERUS.

Read before the Steuben County (Ind.) Medical Society, Aug. 23, 1895.

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In the treatment of retrodeviation of the uterus, as in fact, in any abnormal condition, either medical or surgical, a thorough understanding of the etiology, pathology and complications is demanded in order that the desired results may be obtained. Without this knowledge failure will, as in the past, attend our efforts in a lamentably large proportion of cases. I believe that the statement will stand unchallenged that, until recently, the treatment of retrodeviations was most unsatisfactory and unsuccessful and that the cause of such frequent failure was the attempt to treat all cases by a similar method, either without due regard to, or in ignorance of, their causes and possible complications.

For years, the vaginal tampon and pessaries, aside from certain plastic operations on the vagina and perineum, constituted our sole means for the correction of uterine displacements. It can not, therefore, be considered a cause for surprise that innumerable forms of pessaries, ingenious and otherwise, were employed in the vain and, as we now recognize it, unreasonable attempt to correct these displacements.

With the ever increasing experience in pelvic and abdominal surgery, naturally came a better knowledge of the complications so frequently associated with retrodeviations and it was readily seen how futile the wearing of a pessary must be in many cases and how dangerous in others.

Upon opening the abdomen in cases of retrodeviation, even with a movable fundus and seemingly without grave complications, we occasionally find one or both ovaries, with their accompanying tubes, prolapsed along the side of, or even behind, the uterus and attached to it by adhesions either slight or extensive. In the absence of adhesions between the fundus and the posterior wall of the cul-de-sac, such a uterus could be replaced by manipulation through the vagina. Such a replacement, having met the only then recognized requirement prior to the introduction of a pessary, would have been followed by the propping up of the uterus by the manipulator's favorite pessary.

We now realize, what he then did not, that the pressure and irritation of a pessary under such conditions may be productive of most serious results. Plastic lymph is poured out in increased quantity, adhesion follows adhesion, binding the displaced and distorted organs more firmly, pain becomes augmented and all symptoms, distressing before, now become so greatly aggravated as to make almost unbearable the sufferings of the invalided woman. Pelvic inflammations are rekindled and what was looked upon as an instrument of relief and even cure, has been the unsuspected cause of disastrous structural disease and most unnecessary suffering.

It is a matter for congratulation that, while abdominal surgery taught us how faulty and how frequently misapplied was the treatment by pessaries, it enabled us to evolve more correct and successful methods of treatment, so that now surgical procedures advantageously supplement the employment of pessaries. It is to be regretted, however, that from certain quarters we hear the use of pessaries unqualifiedly condemned and resort to surgical methods advised in all cases. Such a practice can not be considered other than an unnecessary and unjustifiable resort to surgery, for before surgical methods were employed, the most reliable statistics, as collected by Davenport, showed that at least 10 per cent. of all retrodeviations were absolutely cured by the use of pessaries, while an additional 15 per cent. were symptomatically cured, although the displacements remained after the wearing of pessaries was discontinued. The same class of cases and certainly as large a percentage of all can,

and should still be cured, absolutely or symptomatically, by pessaries, while surgery must be content in the attempt to cure the large percentage remaining.

Although there are are some noted exceptions, I find the impression quite general among the gynecologists of the country that Davenport's statistics are too low and that considerably more than 25 per cent. of retrodeviations are absolutely or symptomatically cured by pessaries. I am well aware that personal impressions, unsubstantiated by statistics, can not be too closely relied upon, and yet I am satisfied that Davenport's statistics, to say the least, do not place the percentage of cures too high.

In addition to this 25 per cent., or more, who are cured by pessaries, there is a class of patients whose symptoms are nearly or entirely held in abeyance while wearing a pessary and who suffer little or no annoyance from its presence. Such patients frequently prefer the continuous and indefinite wearing of a pessary to a surgical operation, be it ever so simple and safe, and certainly should be granted the method of their choice. Such cases, however, must not be classed among the cured.

Nothing so forcefully illustrates the wide-spread dissatisfaction among the profession with this universal treatment by pessaries, as the eagerness with which Alexander's operation was adopted and put into practice. It was extensively employed in many cases, both suitable and unsuitable. Through ignorance as to its limited scope and the indications for its employment, or from a faulty technique, many failures resulted, made necessary, frequently, from the very nature of the cases in which it was unwarrantably applied. An operation should not be condemned because of failure when wrongfully instituted. Alexander's operation has now been employed for a sufficient length of time to establish its worth and has certainly shown itself to be a beneficent procedure in properly selected cases. To be sure, the range of its applicability is limited, but such can be said of many measures in medicine and surgery. Alexander's operation meets the requirements in by far the great majority of those cases which are relieved by the use of a pessary but which relapse into their former annoying condition as soon as the pessary is removed.

The methods of Dudley and Wylie, consisting of an intra-peritoneal shortening of the round ligaments by folding them upon themselves, have not been extensively employed except by their originators and a limited number of other operators. They do not bid fair to prove successful rivals to hysterorrhaphy, the only other operation with which they can be compared. It would be manifestly unfair to compare them with Alexander's operation which does not necessitate opening the peritoneal cavity. As compared with hysterorrhaphy, the claim is made for these two methods that the uterus is held in place by its shortened normal ligaments, whereas in hysterorrhaphy an artificial or abnormal ligament is created and thus the former bring about a condition more nearly approaching the normal than does the latter. I believe, however, that these advantages are more fanciful than real.

Hysterorrhaphy, after somewhat numerous methods, is the only other surgical procedure for the cure of retrodeviations as yet worthy of extended consideration. This was advanced as a secondary or supplementary operation to be performed when some coexisting disease made necessary a celiotomy. Being the only means applicable to many cases of retrodeviation and having rendered such excellent results when employed as a secondary operation, it was but natural that its performance as a primary operation should be strongly advocated. Some of my most gratifying results in abdominal surgery have followed the performance of hysterorrhaphy as a primary operation, the separation of adhesions to the uterus and its appendages being considered as but a step in the technique.

Hysterorrhaphy is indicated in a much larger proportion of cases than is Alexander's operation, as it is the only proper procedure when the retrodeviation is complicated by disease of the adnexa, or by adhesions between the uterus, the tubes or the ovaries and contiguous structures.

The method of hysterorrhaphy which I prefer and always employ is that of Kelly, in which the posterior surface of the fundus is stitched to the abdominal wall between the lower angle of the incision and the bladder. This method places the uterus in anteflexion, in which position it remains, freely movable, but prevented from tilting backward by the resulting adhesions. I have been able in every case but one in which I have performed this operation to subsequently demonstrate to the satisfaction of others, as well as of myself, the existence of a movable fundus. The only case where I have not been able to show this is that of a patient from Nebraska whom I have not seen since she left the hospital.

This question of a movable or fixed fundus after operation for the cure of retrodeviation has provoked a discussion which, seemingly, is not yet approaching a close. The opponents of hysterorrhaphy urge as a serious objection to its performance that it leaves the fundus fixed, in an abnormal position, to the abdominal wall. Such objection is fallacious, for a properly suspended uterus is not fixed like a ship tied to her wharf, but, like one at anchor, has free motion restricted within safe limits.

In 1894 I had occasion to open the abdomen of a young, unmarried woman for the removal of an inflamed and adherent tube and ovary. For a number of years she had suffered from a retrodeviation for which a pessary had been worn with but slight if any benefit. Advantage was taken of the open abdomen to suspend the uterus, which was done in the usual way. One year later it became necessary to reopen the abdomen for the removal of the remaining tube and ovary. The condition following the hysterorrhaphy was most interesting. Whereas, one year before, the uterus had been tied snugly against the abdominal wall, it was now simply anchored to it by an adhesion or, more correctly speaking, an additional ligament, one and one-fourth inches long, one-half an inch wide and somewhat thicker than a sheet of blotting paper. This ligament, all must admit, gave the uterus a possible range of motion from side to side of two inches, and in the direction of its axis, and from before backward, of over an inch. That uterus could not be called fixed, yet it was held in anteflexion and the patient was entirely relieved of the symptoms produced by the displacement.

I will not attempt to deny that hysterorrhaphy may be, and occasionally is, followed by a fixed fundus, but I hold that such fixation should be charged to the technique of the operator, and not to the operation *per se*. If the operator, following the earlier methods of ventro-fixation, freely scarifies the uterus and

stitches it broadly into the abdominal incision, the resulting adhesion will be broad, firm and practically unyielding. Naturally, the fundus will, in the great majority of cases, remain immovably fixed. On the other hand, if the uterus be scarified but slightly, or not at all, and be stitched to the abdominal wall below the incision so that the wound in the peritoneum does not, when sutured, come in contact with the uterus, the resulting adhesion will be but a narrow band or cord. This adhesion will possess sufficient strength to act, as do the normal uterine ligaments, as a guy to retain the uterus in a comparatively normal position against the bladder, allowing the intra-abdominal pressure to be exerted, as is naturally the case, on the posterior surface of the uterus.

It is surprising that some gynecologists persist in confounding the indications for Alexander's operation and hysterorrhaphy, and endeavor to compare the two as if they were rival methods. There should be no such comparisons nor thoughts of rivalry applied to these two operations, for each has its separate and distinct field of usefulness and is indicated under different conditions, while the value of one does not in the least detract from that of the other. In fact, in the application of pessaries, the performance of Alexander's operation and of hysterorrhaphy, we have three valuable and indispensable methods for the treatment of retrodeviations.

The majority of cases of retrodeviation are, unquestionably, post-puerperal in time of occurrence and are due to a subinvolution of the uterus, rendering it large and heavy, and to a similar condition of the relaxed uterine ligaments. Relaxation of the sacro-uterine ligaments plays a most important rôle, not in causing the displacement, but in allowing the cervix to slip forward and downward, bringing the uterus into the axis of the vagina. Laceration of the perineum is another important factor in the production of backward displacements, in that, during defecation, the posterior vaginal wall is bulged forward and the posterior lip of the cervix consequently dragged upon in a downward direction. This one fact should impress upon us the necessity for the repair of lacerations of the perineum prior to, or coincident with, the treatment of retrodeviations.

The dorsal recumbent posture, which the woman assumes after confinement, and to which she later so frequently resorts for relief from her distressing backache, favors a backward displacement, the force of gravity meeting with no resistance from the relaxed ligaments. In the upright posture a slight prolapse occurs, permitted by the relaxation of the tissues, and with the prolapse, a straightening of the natural anterior curve of the uterus takes place. A full bladder adds its pressure as a displacing force, the fundus uteri is pushed backward, completing the displacement, and the intestines, crowding down in front of the fundus, tend to retain the weakened organ in its displaced position. The tonicity of the uterine walls and its ligaments being greatly impaired, with all forces acting to maintain the uterus in its unnatural position, it is far from probable that the organ will ever, unaided, regain its natural position. Circulatory disturbances in the nature of passive congestion follow, resulting in an impairment of nutritive processes. Chronic endometritis and metritis soon become engrafted upon such a uterus, and add their detrimental influences as complications of the displacement.

Under such circumstances as the above, pregnancy seldom occurs, the woman proving relatively sterile. When pregnancy does take place, abortion is apt to follow before the fourth month, owing to the pressure of the enlarging uterus against the sacrum and its promontory, under which it may become more or less firmly wedged.

The frequent repetition of abortion in a retrodeviated uterus may be the cause of subinvolution, the conditions of cause and effect, as described above, being reversed, the displacement causing the subinvolution, through frequent abortions, rather than the subinvolution causing the displacement.

When subinvolution, with its attendant endometritis and metritis, is associated with backward displacement, either as cause or effect, the efforts directed toward the cure of the displacement resolve themselves largely into means for the relief of the complications. Uterine inflammation must be subdued, circulation restored to its normal activity, involution secured and the displacement rectified. For quick results, nothing is so satisfactory as a thorough instrumental dilation of the uterus, aseptic curettage with the sharp instrument, followed by gauze packing and drainage. The curettage is to be followed, at the same sitting, by one of two procedures, either manual replacement of the uterus with maintenance of position by wool tampons, to be later followed by a pessary, or performance of either Alexander's operation or hysterorrhaphy.

We often find that the cure of the complications by the curettage and the maintenance of the uterus in position for a few months, by means of a pessary, is sufficient to secure permanent restoration of the uterus to its normal position. Where this treatment fails, in that the pessary can not be removed without subsequent return of the uterus to its abnormal position, with its attendant symptoms, Alexander's operation is indicated. It is, possibly, advisable to treat all of this class of cases as above mentioned, but as the curettage necessitates anesthesia, advantage may be taken of the latter to at once perform Alexander's operation, and thus save the patient the many annoyances attendant upon the wearing of a pessary. A second resort to anesthesia for the performance of the operation made necessary by the failure of the pessary, may then be forestalled. Many a woman with a retrodeviation is allowed to suffer unnecessarily without receiving the attention from her physician which her condition requires. Her importunate demands are satisfied, from time to time, by the insertion of a pessary which, while it may temporarily relieve, does not cure. Alexander's operation is safe, and ordinarily gives satisfactory results, and such a woman is entitled to its benefits if she so elects.

When, however, adhesions have formed between the uterus or its appendages and the walls of Douglas' culde-sac, or when the appendages are diseased, especially if there be a history of salpingitis and pelvic peritonitis, neither pessaries nor Alexander's operation will meet the requirements. Nothing will answer but hysterorrhaphy with separation of all adhesions by the fingers within the abdomen.

The constant weight of the heavy uterus, causing irritation by pressure and friction between the opposed peritoneal surfaces, is frequently a cause of adhesions between the uterus and the posterior wall of the culde-sac. In a long-standing retrodeviation the tubes and ovaries, by the traction of the uterus, are dragged

backward and downward into the lateral portions of the cul-de-sac, where, subject to pressure, irritation and congestion, they are liable to fixation by an outpouring of plastic lymph. Salpingitis and pelvic peritonitis complicate many cases of retrodeviation and are, without doubt, responsible for the presence of adhesions in the majority of cases. It is the presence of the adhesions, fixing the uterus or the appendages, or both, which renders futile and even dangerous the wearing of a pessary and contraindicates Alexander's operation.

Without entering into a consideration of the recently advocated vaginal methods of operating for retrodeviations, I will offer the following conclusions:

1. In simple, uncomplicated retrodeviations, producing symptoms, pessaries should first be employed, to be followed, in the event of failure, by Alexander's operation.

2. In movable retrodeviations with healthy appendages but complicated by mild subinvolution, endometritis and metritis, Alexander's operation, preceded by curettage, is indicated. Curettage and pessaries may cure a limited number of this class.

3. In retrodeviations complicated by marked subinvolution, endometritis and metritis, or by tubal or ovarian disease, or by adhesions, hysterorrhaphy, preceded by curettage, is the only method permissible.

ELECTRICITY IN THE TREATMENT OF FIBROIDS OF THE UTERUS.

BY FRANKLIN H. MARTIN, M.D.

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CURRENT.

In the treatment of fibroids of the uterus by electricity the direct current, or what is more commonly known as the galvanic current, is the form of electricity almost invariably employed. The maximum strength of current employed, 250 milliamperes or one-fourth of one ampere, requires an apparatus which will possess an electro-motive force of 30 to 40 volts. The amount of voltage required varies in different cases with the varying resistance of the electrodes and the tissues of the uterus and abdominal wall through which the current must act. This resistance may be from 60 to 300 ohms. This deviating resistance is accounted for by the use of different kinds of electrodes and the variation in the resistance of the same tissues in different individuals.

APPARATUS.

The direct current may be generated for medical uses from *a*, primary batteries, *b*, from dynamos of the non-alternating or non-interrupting variety employed for incandescent street or house lighting and *c*, storage or secondary batteries.

PRIMARY BATTERY.

There are several distinct forms of primary cells employed by gynecologists in the treatment of fibroids:

Portable Battery.—The old reliable portable battery is the one with zinc and carbon elements excited by a fluid of sulphuric acid and bichromate of potassium in water in cells of glass, or better, hard rubber. The voltage of each of these cells when freshly charged is about 2 volts. Therefore a battery of this description of about 18 cells properly connected makes a very suitable portable battery for the treatment of fibroids.

There are several so-called dry-cell batteries of secret construction which appeal to one on superficial observation, because of the claims of their inventors, of cleanliness, durability, and freedom from objectionable fluids. All such batteries should be looked upon with suspicion, until they have proved themselves capable of furnishing an electro-motive force of from 30 to 40 volts for periods of five to ten minutes, several times a day for several months, otherwise the cost of recharging makes them too expensive.

Office Batteries.—For office battery where portability is not required, the Law cell, the improved Le Clanche, the Diamond Carbon, or cells of similar construction should be employed. They should be attached to a selective switchboard of such a construction that any portion of the battery may be employed at will. These cells may be placed in an adjoining closet or cellar and connected with the switchboard by a cable of wire, or they may be placed in a cabinet beneath the switchboard. As these cells have an average voltage of one or one and a quarter volts each, a battery of about 40 cells should be selected.

Street Wire Current.—One of the most satisfactory office fixtures for electricity is a connection from an incandescent lighting system of the uninterrupted or non-alternating variety reduced by some safe form of rheostat. One of the simplest rheostats is the McIntosh (Fig. 1). It is compact, easily comprehended and regulates the current in gradations from zero to the full strength of the street current, and reverse, without the slightest possibility of a break. A fuse box is also connected with this rheostat which will burn out and disconnect the current from the patient in case of an accidental dangerous increase of the electricity from any unlooked for source.

Storage batteries may be used as a source of electricity for gynecologic practice. However, as they are not economical and wherever they can be used to advantage they must be near some other source of electricity, it is obvious that one would seldom select this form of battery.

MILLIAMPERE METER.

To employ galvanism in gynecologic practice without a milliampere meter is criminal. There are three reasons for this: 1, because the resistance through the abdominal walls is so small and variable, that no one, no matter how experienced, can even approximately estimate the amperage of a current by the number of cells employed. 2, because of the powerful current often required in this kind of work, a dangerous dose might easily be given, and 3, because of inaccuracy in recording cases.

A milliampere meter should be selected which has two readings: One scale reading to 500 milliamperes and one reading to 50 milliamperes. This presupposes in reality a double instrument. By changing a switch either reading may be selected without the necessity of changing the connections.

The best milliampere meter I am acquainted with is the Weston. It is reliable, convenient, double reading, dead beat, and can be used in any position on a level without regard to the poles of the earth. The principal objection to this instrument for general use is its expense (Fig. 2).

An instrument which I have employed more than any other in my work outside of the office is the McIntosh instrument (Fig.3). It is of the galvanometer type and much cheaper than the Weston. It is approximately correct, and barring the fact that it must be carefully adjusted to the polarity of the earth, be-

fore each using, and that the indicator is not dead beat, it is a very satisfactory instrument. It has a double reading; is made in two sizes, one large for office use and one small for portable purposes.

ELECTRODES.

In describing electrodes for use in the treatment of fibroid tumors I will limit my description to those which I actually employ in my own work and leave the innumerable confusing curiosities which adorn the ordinary instrument catalogues unmentioned.

Abdominal electrodes in use by me are of two kinds according to the dose required. When a current of less than 50 milliamperes is employed a large sponge, a large felt or a large spongio-pyoline instrument may be employed. These electrodes should be not less than six by eight inches of an oval shape. They should be thoroughly washed in warm water before using, and all surplus water squeezed out before the application is made. For a current above 50 milliamperes a clay electrode or the author's membranous abdominal electrode should be employed. These being the only instruments which I have found in my experience which will uniformly distribute the current and prevent burning of the skin in spots.

The clay electrode is the cheapest form of the two. If made as recommended by Goelet, wrapped in cheese cloth with a rubber back it is comparatively clean and makes a suitable instrument where efficiency and economy alone is desirable. It is constructed of pottar's clay of the consistency of putty molded into a cake, about eight by six inches in diameter by one inch in thickness.

The membranous abdominal electrode devised by the writer, is a water electrode, the cavity of the disk holding the water being covered with animal membrane, the membrane furnishing the surface of contact (Fig. 4). This instrument when filled with warm water makes an ideal electrode. It is cleanly, its temperature is easily regulated and it diffuses the current perfectly.

For internal electrodes I employ intrauterine, vaginal and rectal instruments.

The intrauterine electrodes are of two varieties: flexible concentration and soft copper.

The flexible concentration consists of platinum wire wound spirally over soft copper for varying distances tipped with hard rubber, and the portion of the instrument not active, is covered with some insulating material as rubber or linen covered with shellac. These instruments may be made of any diameter. I have them in sets of two, three and five millimeters in diameter respectively. The active surface which I ordinarily employ is four square centimeters (Fig. 5). In knowing accurately the active surface of an electrode, one can estimate more definitely the particular effect to be expected from a known current. This will be explained more comprehensively when we consider treatment technique.

Soft copper electrodes are employed in order that the uterine mucous membrane and deeper tissues may become infiltrated by cataphoresis with the salts of copper produced by a combination of tissue and copper electrolysis, which occurs at the positive pole. I have these electrodes made in sets of three instruments, each instrument having an electrode of different caliber on either end (Fig. 6). This makes six diameters—2, 4, 6, 8, 10 and 12 millimeters. The length of each electrode surface is six inches. The portion of the staff not employed in the uterine canal is insulated with a loose rubber muff.

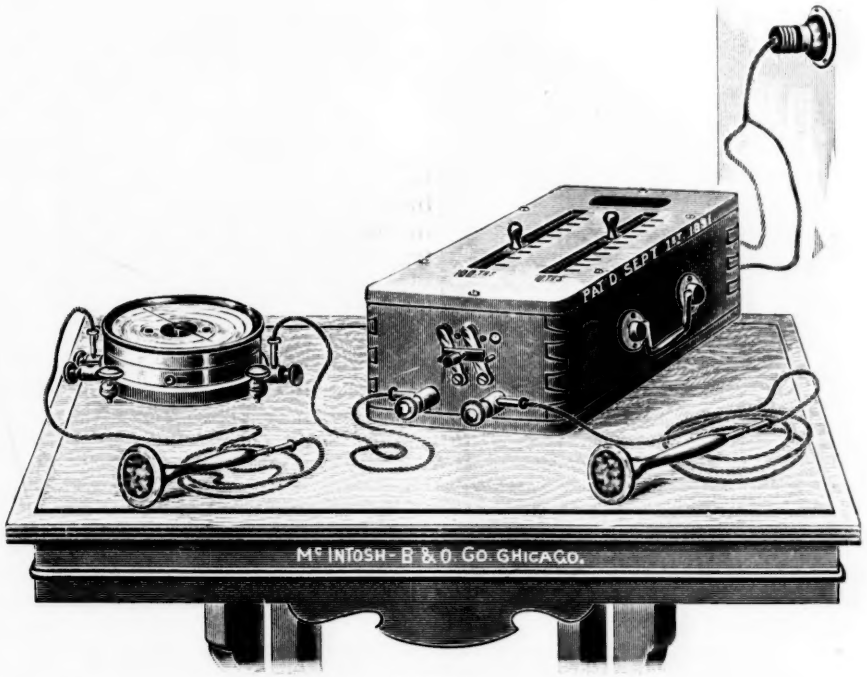


FIGURE 1.

Vaginal electrode.—I employ an instrument for this purpose like the one shown in Fig. 7. It has an active surface of about sixteen square centimeters, the staff of it being insulated with hard rubber over a copper core. The instrument is about six inches long and about three-quarters of an inch in diameter.

Rectal electrode.—I employ a long bulbous-pointed instrument about four inches long and one-half inch in diameter for a rectal electrode. The insulated portion has a metal surface of about ten square centimeters. The staff is insulated with hard rubber.

Effects of Galvanism on Living Tissues.—Fortunately the effects of electricity upon living tissues has been so thoroughly studied, clinically and experimentally, in the last few years that we are in a position to make some pretty definite statements about its

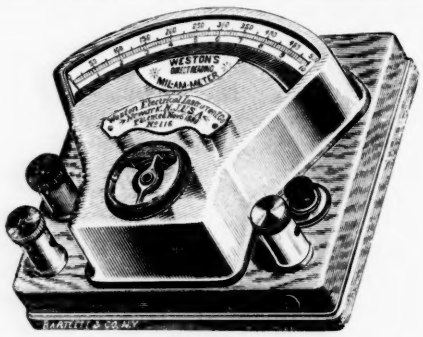


FIGURE 2.

action. These studies, too, have not been limited to the living tissues, but have been carried into the chemic, physiologic and bacteriologic laboratories to such an extent that we have many experimental proofs which have proved true several former theories and exploded many others.

In applying galvanism to the tissues of the body the employment of two electrodes is necessary. In applying electricity to fibroids of the uterus the internal electrode is usually termed the active pole while the external one is called the passive pole. We speak, therefore, of three kinds of effects from the application of the current in this manner: Polar effects, inter-polar effects and general effects.

The polar effects differ materially with the pole employed. In several respects the effects at the two poles are diametrically opposed.

Effect on Sensibility.—The positive pole or anode acts as a sedative while the negative pole acts as a cathode. This effect on the sensory nerves is called the electro-tonic effect and the two effects are expressed as the anelectro-tonic effect (sedative) and the catelectro-tonic effect (irritant). The use of electricity

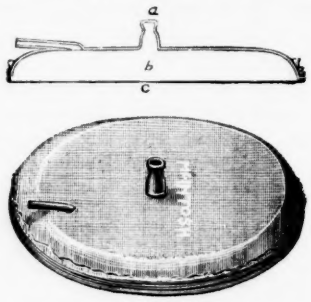


FIGURE 4.

in gynecology with its employment of large doses has abundantly demonstrated to me the electro-tonic effect of galvanism.

Effect on Blood Vessels.—The positive pole contracts blood vessels in its immediate neighborhood while the negative pole dilates them. These vaso-constrictor and vaso-dilator effects are easily demonstrated.

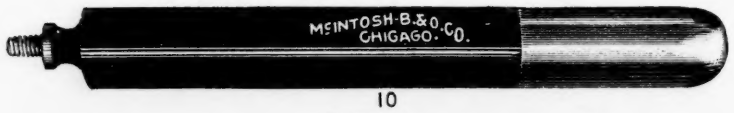
Chemic Reaction.—The result of tissue electrolysis between the poles produces an accumulation of alkalin elements at the negative pole and acid elements at the positive pole. This results in an acid reaction obtaining at the positive pole and an alkalin reaction at the negative pole. If the electrolysis is persisted in with a powerful dose these polar accumulations become caustic acids and caustic alkalies respectively.

Effect on Tissue.—The acid accumulation at the

FIGURE 3.

FIGURE 5.

FIGURE 6.



10

FIGURE 7.

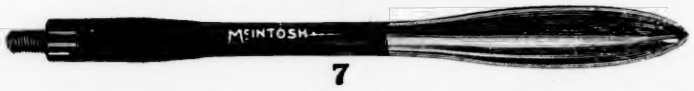


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FIGURE 8.

positive pole when it becomes sufficiently concentrated from the effect of a strong dose coagulates the soft tissues and renders them for a short distance from the pole hard and dry. On the other hand the alkalin accumulation at the negative pole when strongly concentrated by a strong dose of electricity, dissolves the tissues and liquifies in the same manner as does caustic alkalies.

Effect on Pathogenic Microbes.—A zone of uterine tissue around the positive pole of a depth varying from a fraction of a millimeter to one or two millimeters according to whether the dose of current is small or great is rendered bacteriologically sterile by the employment of the galvanic current. This effect according to experiments made by Gautier, Apostoli, Enrico Burci, Vittorio Frascani and others, is not due to the electricity direct but rather to the chemic changes occurring around the positive pole as the result of electrolysis. For instance, if a copper electrode is employed oxychlorid of copper is formed as the result of a combination between the electrolyzed tissues and copper. This chemic combination is an active germ destroyer and in solution it is driven by cataphoresis into the tissues to a considerable distance, carrying its antiseptic properties with it. There is scarcely any antiseptic effect at the negative pole.

INTERPOLAR EFFECTS.

While it is easy to demonstrate polar action it is not an easy matter to make an ocular demonstration of the interpolar effects of the galvanic current on living tissues.

From experience in the employment of this current on living healthy and pathologic tissue, experience of many earnest investigators extending over a period now of several years, we are convinced that evidence enough has accumulated to justify us in saying that the following definite effects occur in tissues so acted upon: 1, interpolar electrolysis, 2, stimulation of trophic nerves, 3, cataphoric action.

Interpolar Electrolysis undoubtedty occurs between the poles as well as at the metal poles themselves. When such electrolysis occurs in a fibroid uterus it is easy to account for the reduction in size of that growth. When the molecules of weaker tenacity in such tissues become decomposed into their constituent elements ozygen, hydrogen, carbon, etc., these elements, as gas or solid particles, immediately on their release become foreign substances. While seeking for new combinations some of them are taken into some of the many absorbents traversing the tissues and are carried out of the system. Others form new combinations with free elements in the tissues, or with the decomposed material of the electrodes, or fluids surrounding the electrodes on the surface, and still others are liberated at the poles as solids or gases.

Stimulation of Trophic Nerves.—While the electrolytic effect of the current may account for reduction or absorption of growths, I believe that this result is materially hastened by powerful stimulation of the trophic apparatus of the uterus by electricity. We are forced to believe this by the fact that the general nutrition and functional activity of all the organs, any way coming under the influence of the current, are markedly improved.

The Cataphoric Action of the Galvanic Current.—This is the property of a current of electricity which enables it to push or conduct fluids in bulk through membranous or porous conductors in the direction of the current flow, from the positive toward the negative pole. This is also called electrical cataphoresis. Fluids near or on the positive pole, either simple or holding in solution drugs or chemicals, will be driven into the living tissues when living tissues are made a portion of the conductor. So that the tissues of the uterus may become impregnated with any drug which can be dissolved in water by surrounding an intrauterine positive electrode with a film of cotton saturated with the particular fluid and causing a current to traverse the tissues.

The general effect of galvanism upon the tissues is that of a powerful tonic. Irregular practitioners, for a large number of years, employed electricity in some form successfully because of its power to stimulate general nutrition. It mattered but little what form of electricity was employed, or where it was applied so long as some portion of the sick man became a part of an electric circuit; it was sure to stimulate him, improve his nutrition and make him feel a stronger man. The powerful doses employed in the use of galvanism in the treatment of fibroids exaggerates this tonic effect of electricity to such a degree that many physicians have endeavored to attribute to it all the credit for improvement of fibroids under electricity.

Summary of Effects of Galvanism in the Treatment of Fibroids of the Uterus.

Polar Action: *Negative Pole a.* Irritant; *b.* Vasodilator; *c.* Alkalin; *d.* Liquifies tissues; *e.* Antiseptic (slightly). *Positive Pole a.* Sedative; *b.* Vaso-constrictor; *c.* Acid; *d.* Coagulates tissues; *e.* Antiseptic (powerful).

Interpolar action: Electrolysis and trophic stimulation.

General Action: Powerful tonic.

THE APPLICATION OF GALVANISM TO THE TREATMENT OF FIBROIDS.

What is the present status of the treatment of these benign tumors by electricity? With the brilliant results of present surgery as a competitor, one must have considerable courage to offer electricity as a remedy at all in these cases. But as an abdominal surgeon with at least average success, and at the same time as one who interested himself early and enthusiastically in the much-lauded Apostoli treatment when it made its *début* in this country, I am constrained by sense of justice, knowing well both sides, to say that in the interest of those who have fibroids of the uterus, that the knife, even in these times of brilliant successes in surgery, is used too often and electricity too little. If a brilliant hysterectomy with its average mortality of 5 per cent. ended the matter, and the 95 per cent. recovering gained health immediately, we could have but little to say. When, however, we must reckon on the months of nervous suffering with which the majority of these patients who have their tumors removed have to contend, after this operation, before they receive the well-earned cure, and when we take into consideration the not large but certain percentage of fistulas, hernias and other well-known distressing sequelæ following operations, and last but not least when we remember the grim specter of that 5 or 10 per cent. who did not recover, are we not justified if we have a conscience (especially when we realize that a fibroid of the uterus when left alone seldom proves fatal) in giving our patients the benefit of a treatment, which seldom fails to *relieve* these cases, and while it frequently fails to cure, *never kills* and *never*

does harm and *never interferes with the success of an operation, if it in the end fails to cure?*

Experience in the treatment of fibroids of the uterus by electricity has taught me how to select my cases, when to encourage a patient to receive electricity and when to encourage her to select an operation. Rules which I have formulated and allowed to influence me but not control me (because I make frequent exceptions to them in individual cases) are as follows:

WHEN ELECTRICITY IS SPECIALLY INDICATED.

1. In bleeding fibroids in women approaching the menopause.
2. In all inoperable cases.
3. In incipient fibroids in women over 40 years of age.
4. In all bleeding fibroids of the smooth interstitial variety which have no symptoms but hemorrhage.
5. In all cases (not accompanied with pelvic pus accumulation) which refuse to have an operation.

TECHNIQUE OF TREATMENT OF TYPICAL CASES.

A typical case for the successful treatment of fibroids of the uterus by electricity is that of the interstitial variety, in which the new tissue is uniformly distributed throughout the uterus, enlarging it to a symmetrical tumor of varying sizes, and proportionately expanding the uterine canal. These cases are almost invariably of the hemorrhagic variety because of the expansion of the uterine mucous membrane. The hemorrhage occurs as an exaggerated menstrual flow. These tumors vary in size from a growth the size of one's fist to a tumor filling the abdomen with a uterine canal many inches deep. Those not exceeding six to eight inches in length and three to four inches in lateral diameter are the ones in which electricity accomplishes the best results.

METHOD OF PROCEDURE.

We seek in these cases, *a*, to transmit through these tumors, for its electrolytic effect, as strong a current of galvanism as the patient will bear, without severe discomfort, and, at the same time, not to severely cauterize the tissue at the poles. *b*, We seek to get acid accumulation at the positive pole located in the uterus, of sufficient density to coagulate the tissues and thus lessen the bleeding. *c*, This same acid at the positive pole we expect too combine with the copper of the electrode and form salts, which salts in solution by the cataphoric action of the current will be driven into the uterine tissues, immediately surrounding the electrode, and as a styptic materially aid in curing excessive flow. *d*, We seek further to obtain the powerful antiseptic effect as the result of chemic changes occurring around the internal electrode, in order to cure the endometritis which almost invariably exists as a painfnl accompaniment of fibroids.

After an antiseptic vaginal douche the patient to be treated is placed upon a table on her back with her buttocks drawn well to the edge and feet supported by stirrups. The size, shape and direction of the uterine canal is obtained by the use of large, flexible sounds. A large copper electrode then, of suitable diameter, is properly shaped and passed to the bottom of the uterine canal, and the vaginal portion insulated with the rubber muff. This electrode is then attached to the positive terminal of the battery. A clay, or the writer's membranous abdominal electrode, is next passed under the loose clothing and placed on the abdomen and then attached to the negative pole of the battery.

The current is now gradually turned on while the milliampere meter is carefully watched and the features of the patient are closely scanned for signs of pain, until the current reaches 100 to 150 or even 200 milliamperes, according to the tolerance of the patient and the size of the active internal electrode. If the active electrode is of the ordinary diameter of from 3 to 5 millimeters, a current strength of 100 milliamperes can be used safely in any particular case for every two inches in length of this electrode which is active. *To be more accurate, the current should not exceed in strength 25 milliamperes for each square centimeter of active surface of the internal electrode.*

So that in the general run of cases one can safely give the patient as strong a current as she will bear without danger of producing excessive cauterization at the active pole. This will vary from 100 to 200 milliamperes. The time of each treatment should be five minutes for the maximum current employed. The treatment should be given as often as every second day. Except in cases of continuous flowing, the treatments are best given between the menstrual periods.

These cases begin to improve almost immediately. The first improvement is in relief of neuralgic and so-called pressure pain. In a few days they find that their general strength is improved. Reflex disturbances such as stomach irritation, palpitation of the heart, occipital headache and backache will be relieved. The patient will begin to eat and sleep naturally. There is a general feeling of well being engendered. In a few days the leucorrhea or purulent discharge from the endometrium will diminish. As the patient arrives near the menstrual period, she finds that the old premenstrual aches are not present, the old despondency is absent. If the treatment has been sufficiently active the menstrual flow will arrive without pain frequently. Occasionally, the first month the flowing is fully as free as usual, although frequently it is much less. If the treatment is continued for two or three months these patients will begin to maintain that they feel perfectly well. All the old distressing symptoms will very often disappear entirely, they will gain flesh and the uterine discharge will become normal. While the tumor will still be apparent to the physician's examination it will almost invariably be found to be much diminished in size. When the time arrives in the treatment that these patients are symptomatically cured, that is when they feel no symptoms, I usually discharge them. I always inform them that the tumor has not disappeared, and that sometime it may again give them the old difficulties. As long as they are free from these they may be satisfied that the tumor is not growing—on the contrary decreasing in size. However, if the old symptoms begin to return I instruct them to seek relief again in the electricity.

The above treatment applies to the typical bleeding fibroids of interstitial variety.

Where the uterus is large and the canal is deep, it is necessary sometimes to attack the mucous membrane by piecemeal, in order to get sufficient concentration with the dose tolerated to accomplish sufficient changes in the endometrium to check hemorrhage. The concentration necessary should approximate 25

milliamperes for each square centimeter of the electrode in contact with the mucous membrane. For example, if a patient will only bear a current of 100 milliamperes, one should select an electrode of copper or zinc or platinum with a diameter of proper dimensions, insulated to all but 4 square centimeters of its distal end. The depth of the canal is measured. Then commencing with the distal end of the cavity, the exposed active surface of the electrode is made to cover in successive treatments its whole surface. By doing this the whole mucous membrane is acted upon uniformly without employing at any time a larger dose than 100 milliamperes.

INOPERABLE AND COMPLICATED CASES.

The cases which are referred to the writer for electrical treatment, in these days when active surgery offers such a large percentage of recoveries from hysterectomies, are for the most part complicated cases, which the ordinary surgeon shuns.

One complication which frequently induces the surgeon to shift the responsibility of these cases, is that of severe purulent metritis and endometritis, accompanied frequently with discharges of gangrenous masses from submucous fibroids, all accompanied with much pain, more or less hemorrhage, and with the discharges inclined to be very offensive. The patients are usually poorly nourished, with white and waxy skin in consequence of septic absorptions. When they reach this stage they are frequently pronounced malignant. The outlook for an operation certainly is not flattering.

Now the writer has been honored frequently by having such cases sent to him for electrical treatment, by different friends of his who are conscientious surgeons.

What have we to deal with? Usually a tumor of large size extending to the navel. It is soft, with nodular masses projecting from its peritoneal surfaces. The cervix is soft and patulous, with a canal large and irregular. Sometimes a small nodular mass is presenting at the cervix. This is usually soft and easily broken down. The endometrium and all cavities from which masses have been projected or from which masses have sloughed away are infected and ulcerating, and emitting a discharge which rapidly becomes offensive. From the large mucous membrane periodic and irregular uterine discharges are occurring, serving to swell the already copious outpour.

The writer has treated by electricity and symptomatically cured several of these cases in which a diagnosis of cancer had been made by men of more than ordinary talent.

I prefer, when it is practicable, to dilate the canals carefully in these cases, and remove with a dull curette the superficial débris before beginning the electricity.

I then select one of the largest copper electrodes which can be inserted and make it the active positive pole, inserting it to the bottom of the canal with its whole surface uninsulated. With the abdominal electrode in place, a current is gradually turned on until a strength of 200 milliamperes is reached, or the maximum amount under that strength that the patient will tolerate.

These treatments should be given every other day. Antiseptic douches should be employed night and morning.

These cases respond rapidly. The powerful antiseptic action on the mucous membrane makes itself apparent by the decreased odor of the discharge. The passing and withdrawing of the electrode opens and provides free drainage for the secretions. The tissues become tanned by the salts of copper which are forced into them by cataphoresis, and the discharge of blood is lessened. The patient is toned by the general effect of electricity on her system. In a word, it is frequently marvelous what a transformation will take place in these apparently hopeless cases in a few weeks of judicious galvanic treatment.

While these cases are apparently hopeless, oftentimes when they are "given over" by the surgeon, they are frequently symptomatically cured by this simple remedy. The writer has a long list of such cases, and they constitute some of the most satisfactory work he has ever had placed to his credit.

INOPERABLE TUMORS TREATED BY OTHER THAN THE INTRAUTERINE METHOD.

There is a class of complicated cases of different kinds in which it is impossible, because of the contortions of the growth, to enter the uterine canal with an electrode. Occasionally the tumor has displaced the cervix so that it is drawn high in the vagina above the bladder, out of reach of finger or sound; while again it is drawn up posteriorly with the uterine canal forming an acute angle with the vagina. In all cases where it is impossible to reach the canal, if they are treated by electricity, it is necessary to employ it without the advantages of an intrauterine electrode.

Only in the most desperate cases, in which submitting to an operation is clearly suicidal, would one think of employing electricity as a means of treatment, when an intrauterine electrode was impossible. But it is in just these cases, with their distressing neuralgic and pressure symptoms, with dyspeptic complainings and bowel irritations, the result of reflex nerve disturbances, in which an operation is discouraged, that we find patients ready to catch at any straw.

In many of these cases I believe that electricity not only offers a straw, but a veritable lifeboat to their despairing bodies.

When an intrauterine electrode is not practicable, then we should employ some other form of internal electrode which will have the effect of causing the current of galvanism to pass directly through the largest portion of the tumor.

If the vagina is not distorted so but that a vaginal electrode may be employed, that instrument should be used (Fig. 7), placing its active point posterior to the tumor. This should be made the negative pole. The abdominal electrode should be placed in such a position that the largest diameter of the tumor is interposed between it and the vaginal electrode. A current of 50 to 100 milliamperes may be safely employed, if tolerated, for a period of five minutes. The treatments may be given as often as every second day, and in a few cases every day where it is well borne.

When a vaginal electrode can not be employed to advantage in these cases, a rectal electrode (Fig. 8) should be employed. This should be placed well up opposite the tumor. It should be employed as the negative pole. It should have an active surface of more than eight centimeters and the current should never exceed 200 milliamperes.

All we can expect to accomplish in this treatment is that beneficial action derived from passing a strong direct current through any tissue containing muscles, nerves, lymphatics and blood vessels, viz., a powerful

trophic stimulation to the part, and incidentally a powerful general tonic effect on the general system.

These cases get great relief. Neuralgias stop. Troublesome abdominal reflexes cease. Circulation is improved. Nutrition is stimulated. Sleeplessness disappears. Bowels are stimulated and relieved of troublesome distension symptoms. The tumors often seem to decrease in size. The degree to which each of these symptoms are relieved varies, of course, much in individual cases. The writer has seen a large number of cases completely and for an indefinite time, relieved of all these symptoms. In fact, some of the most gratifying cases of relief he has, are of this variety. Their cases are apparently so hopeless that often any relief is very gratifying.

THE RELATION OF GENERAL DISEASE TO THE FORMATION OF CATARACT.

Read before the Medical Society of the District of Columbia.

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The etiology of cataract may be classed under the following heads: Disease of the eye; diseases, which by some influence, exerted through the blood or the nervous system, interfere or impair the nutrition of the lens; and senile degeneration, certain pathologic conditions within the eyeball, especially of the choroid, are great factors in the production of cataract; yet may not the general or constitutional trouble manifest itself upon the choroid and these changes be secondary to the lowered health condition? The occurrence of cataract after middle life indicates the influence of senile change. It is generally conceded that senility or age exerts a powerful influence in the production of this condition of the lens. Cataract, in opinion of the writer, is not due to age, in the sense as we say that poisoning is due to the poison, or iodism to the iodin; it is senile in the same sense as atheroma of the arteries; it is a condition found associated with age, but all aged persons do not suffer from this condition. Clinical experience teaches us that the so-called senile cataract, after its beginning, is not steadily progressive, but may be marked by a steady increase, or periods of little or no change, and sometimes by a diminution of the opacity. Cases are on record where the patient having an incipient cataract, was told that it would be rapidly progressive; the physician was then informed that six years before the patient had been told the same thing by another ophthalmologist, and that between these times no diminution of sight had occurred, nor was the opacity greater. We frequently meet with cases the etiology of which is obscure, therefore, the causes which originate the opacity is of importance and of great interest. If the general physician were to become more familiar with the use of the ophthalmoscope, and were to make a careful examination of the media and fundus of the eyes, as one of the methods employed in the study of the symptomatology of general disease, much valuable information could be thus obtained in this direction and the ophthalmologist would then receive valuable data and not be compelled to gather it from scattered reports through the literature, the value of which may be questionable, and may only prove a coincidence; also, he will not have to rely upon the statements of patients in ascertaining all the particulars as to the beginning of the opacity, and as to any history of general disease. Clinic patients are very uncertain and their statements are not always reliable. In the hospitals and clinics the physician and the ophthalmologist serve together in their respective capacities; this would seem to me to be an excellent opportunity to combine their skill in the study and treatment of general diseases from beginning to the end. The information thus gained would be invaluable, and add much to the literature of medical ophthalmology. I have for this reason brought this subject before the Society, hoping that it may be the means of gaining the aid and coöperation of the general physician in our researches along these lines.

I shall now present to you some of the general diseases which seem to have some relation to the formation of cataract.

Malaria.—Bagot reports two cases in which he says that two mulattoes after a severe malarial illness, had diminution of vision, and in a few months double soft cataract developed, which were operated upon, and visual acuity resulted, there being no disease of the fundus. Malaria will, we know, produce lesions of the vitreous and choroid, hemorrhages, which after absorption, leaves atrophic areas in the choroid; also, muscular paralysis, amblyopia and blindness, sometimes with no ophthalmoscopic findings. Then again it may be associated with congestion and edema of the papilla. Dubelir reports a case of blindness with exophthalmus and intermittent strabismus. Sulzer's cases had hyperemia of the disk, slight obscuration of the fundus, photophobia and seeing sparks; other complications which have been observed are iritis, suppurative choroiditis, chorio-retinitis, unilateral retro-bulbar neuritis with central color scotoma and hemianopsia.

Epidemic Influenza.—The epidemic of recent years seemed to affect the eyes to a considerable extent. In a variety of inflammatory affections Rampoldi made an analysis of 532 cases of eye affections which he saw in the spring of 1890; among that number were 48 who attributed their ocular trouble to this disease. These were corneal inflammations and abscesses, irido-cyclitis, conjunctival troubles, detachment of retina and muscular troubles, both internal and external. It would seem that such a disturbance as this disease caused in the eyes of those patients, that it might be more than probable that cataract would follow. In my own experience, this disease produces in those suffering from it the various ocular diseases such as I have named; also optic atrophy, both unilateral and double.

Typhoid and Typhus Fevers.—These two diseases cause considerable ocular disturbance, and we frequently find patients who state that their eyes began to give them trouble or to fail them after some intense febrile manifestation. Arens reports two cases, brother and sister, whose eyes became cataractous after an attack of typhus fever; an extraction gave good results. Trelat reports a cataract following typhoid fever, in a young girl. Fonton reports three cases of cataracta punctata, post-typhoidal cataract, which he thought was due to the disturbed circulation. Of these three casses, two of them, one a 28-year-old man, the other a 42-year-old woman, went on to maturity, and were extracted with good results. During convalescence, paresis of accommodation, with dilatation of pupil is frequent, not a true paralysis, but

as a part of the general debility; there is a tendency to phlyctenular affections of conjunctiva and cornea, sometimes passing into keratomalacia. Von Peterhausen reports double neuro-retinitis with macular hemorrhages. Leber and Deuschmann reported a case of double blindness with secondary optic atrophy and pigmentation of the entrance of the nerve. A case of a boy who had typhoid, examined by the writer, had an affection of the nerve and retina; his sight was much affected and his accommodation paralyzed. Four members of the same family had typhoid fever and the eyes of three were affected. The literature is full of the ocular affections due to these diseases.

Diabetes.—The frequent development of cataract in this disease is well known, and is due to disease of the vessels in the ciliary processes and to the disturbance of the nutrition of the lens. Knies states that it occurs mostly in young people, and that the cataracts are of a broad, striped variety, soft in character, which are associated at first with swelling of the lens. Frey reports double cataract in a girl of 9 years of age, one year after the beginning of the disease. The theories as to the causes of development of cataract in this disease are various. Knies cites the following, which have been advanced: 1. General marasmus, although feeble diabetics are not always attacked by cataract. 2. The removal of fluid from the lens through the medium of the sugar dissolved in the tissue juices; in two-thirds of the cases sugar has been detected in the lens and still more often in the aqueous humor and vitreous. According to this theory, the presence of a certain amount of sugar for a certain period, would produce cataract in all diabetics; this is not borne out by experience. Leber says that the clear as well as the opaque lens may contain sugar in diabetes, and Becker states that the cataract of one eye may contain sugar while the other does not. 3. The conversion of sugar in the aqueous humor into lactic acid, is stated as a cause. As the aqueous fluid is alkalin in diabetic cataract this seems to be a hypothesis; and then the opacity does not commence in the anterior cortical substance. As to the pathology of this disease, Deuschmann reports four cases of diabetic cataract, in which he found proliferation of the layer of pigment cells on the posterior surface of the iris. There were vesicular cells in the lens, and all changes from normal nuclei to entire nuclear disintegration; he therefore concludes that the opacity is due to a necrotic tendency of the epithelial structures; that if the epithelium is normal no pathologic process of diffusion can take place, even should the aqueous and vitreous contain sugar, but when the lenticular cells become necrosed, there are currents of abnormal diffusion set up and opacity is the result. Knies says that the cataract develops under the same conditions as spontaneous cataract, the result of processes in the choroid and particularly in the ciliary processes, which supply nourishment to the lens, the swelling of the lens and the proliferation process in its elements would tend to show that irritating substances are present, which stimulate the living cells to proliferation and then cause their destruction. Galezowski reports 544 diabetic eye cases, in which 31 per cent. of them had cataract and only 19 per cent. had retinal changes. Maulthuer believes that the abstraction of water from the tissues, with the presence of glucose, produces cataract, in diabetics.

Syphilis.—By the disturbance of the nutritive process in the eyes secondary cataract sometimes follows this disease. Bos describes several cases of true syphilitic cataract, seen in Bandall's clinic, also speaks of cases seen by Rominee and Heller. He divides them into two classes, capsular cataracts in which iritis is present and lenticular or true cataracts, which are directly due to this disease, and are not frequent. They appear in the secondary period of the disease, and are soft in character, with no inflammatory process of the ocular coats.

Rachitis.—This disease is often the cause of laminated cataract, due to an intense disorder of nutrition in the lens. If it develops at a very early period or is intra-uterine, a central cataract forms. When this adheres to the capsule of the lens at the anterior and posterior poles, it contracts into a slender opacity and forms the so-called spindle-shaped cataract. Laminated cataract appears to be cortical in character. The opacity may at a later period move away from the capsule on account of new normal cortical substance being formed. This form of cataract is symmetrical in both eyes, but sometimes is unilateral, and sometimes congenital. The larger number of cases develop in the early life of rachitics. Knies says that it is not the rachitis, but the violent and long continued convulsions that cause the cataract, and that these spasms must occur at a period when the growth of the lens is still active, *i. e.*, before six years of age, to cause the lenticular opacity. Arlt does not believe the real cause to be the general convulsions and the consequent concussion of the body, but the nutritive disturbance of the lens due to the violent spasm of the ciliary muscle associated with spasm of the muscular coat of the vessels. The opacity usually develops from a few days to several weeks after the convulsions; in rare cases it spontaneously disappears. In cases of congenital cataract, or if developed at a very early period and is very dense, psychic blindness may develop after an extraction, due to the imperfect development of the tracts between the brain and the eye. Horner says that an analagous condition is observed under similar circumstances, in another organ, which is genetically coördinate with the lens, viz., the enamel of the permanent teeth, particularly the upper incisors, exhibit horizontal grooves and ridges, *i. e.*, places where the enamel is alternately present and absent, the change is only distinctly seen during the first years after the appearance of the teeth.

Diseases of the Skin.—Mooren states that he has often seen cataract develop during chronic cutaneous eruption. Rothmund saw it develop in early childhood among the children of three families, these having a peculiar skin affection. He states the disease to be reticular, fatty degeneration of the stratum of Malpighi and of the papillæ, with secondary atrophy of the latter and rarefaction of the epidermis; this disease began from the third to the sixth month of life, the cataract between the ages of 3 and 6 years. Of fourteen children of three families living in three adjacent villages, seven suffered from skin disease, and five of these had cataract. Nieden observed the formation of cataract in a girl 22 years of age who suffered from telangiectatic dilatation of the capillaries of the entire integument of the face; he also emphasizes the relation between skin diseases and cataract.

Whooping Cough.—Wright reports a case of a boy, 18 months of age, who had this disease and afterward developed cataract. Knapp saw bilateral blindness, from retinal ischemia. Loomis says blindness in per-

tussis occurs almost exclusively in those who die later of pneumonia. Jacobi reports cases of sudden maximum mydriasis and immobility of the pupil, together with double optic neuritis. Alexander and Landesberg, both report hemorrhage into the optic nerve, terminating in optic atrophy. The latter person, also saw the obliteration of the two upper branches of the retinal arteries and subluxation downward of the right lens.

Nervous Diseases.—Logetsehmkow reports fifteen cases between 16 and 37 years of age, who suffered from convulsions and who afterward developed cataract; all had had good vision except one, before the seizure. He thinks that the cataract is in relationship not alone with the convulsive seizures, but with the nervous lesion, which is the cause of the convulsions. Sewill reports a case of spasm of the right orbicularis, and the subsequent development of cataract; the spasm was caused by a carious tooth which upon being removed, ceased. He explains this phenomenon as due to trophic changes in connection with the trigerminal ganglion. Bock reports five cases between 34 and 39 years of age, who had meningitis and who subsequently developed cataract, underwent an operation and good vision resulted. No convulsions were present in these cases.

Pellagra.—The characteristic ocular sign of this peculiar disease is night blindness, although ophthalmoscopic findings are not uncommon. Stroppa saw two cases of optic atrophy; Neusser, diplopia and amblyopia; Rampoldi, retinitis pigmentosa, optic atrophy, disappearance of the choroidal pigment, ulcers and necroses of cornea, opacities of lens and vitreous.

Nephritis.—Deuschmann calls attention to the possibility of a connection between this disease and cataract; he reports twenty-one cases of lenticular opacity, finding albumin in 7 per cent. of these, and in six established the presence of nephritis. In 1881 he found among fifty-three cataract patients 9.5 per cent. of these had Bright's disease. Still later he examined 230 patients with uncomplicated cataract, 5 per cent. of whom were nephritic, and 11.1 affected with Bright's disease. Landesberg examined 376 patients with uncomplicated opacity of lens; he found sugar in the urine of 3, sugar and albumin in 2, and albumin in 44, and 327 with normal analyses. Rothzeigle found albumin in about half of his cases, and describes fifteen cases of chronic nephritis with cataract. Evetzky, in investigating Deuschmann's theory, adopted three methods; he examined 200 cataract cases for albumin, 35 being under and 165 over 50 years of age. In thirty-eight he found albumin, 19 per cent.; in sixteen the albumin was constant; in 9 per cent. there were albumin and tube casts, these were under 50 years of age. He examined ninety-seven cases of chronic nephritis; seventy under 50 and twenty-seven older. The eye affections were albuminuria, retinitis, cataract, posterior synechiæ opacities in vitreous, detached retina and synchisis scintillans. Incipient cataract was found in eight cases 8.2 per cent. Of 584 old persons examined 45.2 per cent. had incipient cataract, of these 2.09 per cent. were in the 6th decade, 45.75 in the 7th, 52.6 in the 8th and 66.6 in the 9th. In fifty-nine cases, 10.5 per cent. of albumin was found in the urine, and in 1.6 per cent. tube casts; 10.5 per cent. of the cataract cases showed albumin; of the non-cataractous, 9.8 per cent. True nephritis was found in the cataractous cases in 0.8 per cent. and 2.1 per cent. in the non-cataractous cases. He concludes that albumin does not mean nephritis, that nephritis and cataract may combine, that there is no cataract in young nephritics, and in old ones, no more than is usually found in those without the sign of Bright's disease. The exact relationship between the development of cataract and nephritic disease, may not be positively shown. Yet there is evidence sufficient to lead one to believe that there is some such relation and in all cases of incipient cataract the urine should be carefully examined. Webster Fox very wisely says, "Whether albuminuria causes cataract may be a matter of doubt, but one is struck with the frequent coincidence of albuminuria in cataract patients. Michel says that cataract and albuminuria are the results of alterations produced simultaneously in the eyes and in the kidneys, from the same general cause, arterio-sclerosis.

Diseases of Heart and Blood Vessels.—Michel says that opacity of the lens is a symptom of a local or general disturbance and that cataract is caused by sclerotic changes in the walls of the carotid, in fifty-three cases he examined, fourteen of them had monocular cataract with atheroma of the carotid on same side; in fourteen there was double cataract, more developed in one eye corresponding to the side of the greater atheroma; in nine cases there were double cataract, which developed simultaneously with a double carotid atheroma; in eight cases of cataract there was sclerotic change in the carotid and on this same side there was thyroid enlargement. Karwat gives cases which confirm Michel's report, stating that there is a relationship between atheroma of the carotid and the formation of cataract.

In conclusion I would enter a plea to the general physician to aid us as much as possible in our research in this direction, that the etiology of many of our cataract cases which are now obscure, may be cleared up and better understood. I would suggest that the eyes be tested for their visual acuteness, at regular intervals; the interior of the eye should also be examined to determine if cataract be present, and as to how far the sight is affected by it, and if other causes are present, how far the impairment of vision is due to them. We must exercise careful supervision of the patient for any symptoms which point to impairment of the general health, and especially for any which show trouble of circulation and digestion. The interest of the patient demands this supervision, for by it we will become more familiar with the nature, prevention and removal of the general conditions which may be the cause of the formation of cataract. As before stated, in all cases of incipient cataract, careful analysis of the urine should be made at different intervals. Though we may not have proven a direct connection between general disease and the formation of cataract, yet it can not be denied the existence of a predisposing cause in all diseases where there is impairment of nutrition and lessened vitality.

1016 I Street, N.W.

Cold Baths in Delirium Tremens.—The *Presse Méd.*, 1896, No. 4, announces that cold baths, eighteen degrees C., have been found very effective in quieting even the most violent attacks of delirium tremens. The patient is placed in the water up to his shoulders and it is poured over his head. The bath is repeated two or three times in the same day. The effect was surprising in two cases described, where all other treatment had been without results. A few glasses of warm wine were given afterward, followed by quiet sleep for two hours.

REPORT ON AMPUTATIONS AT THE JUNCTURE OF THE TARSAL AND METATARSAL ARTICULATION.

Delivered at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

BY W. J. GALBRAITH, M.D.
CHIEF SURGEON UNION PACIFIC RAILWAY.
OMAHA, NEB.

I regret exceedingly that neither of the cases I desired to exhibit at this meeting are here. Owing to the fact that I am obliged to return to Omaha to-night, they will not be here in time for me to exhibit them. I secured transportation and gave them the necessary means to pay their expenses, but some unavoidable accident has delayed them.

I believe the treatment that was applied to this case and one other since that I have operated is entirely unique. It is very difficult for me to describe to you accurately the treatment this case received. It was impossible for me to make a Lisfranc operation on account of the destruction of the tissues a little proximal to the tarsal and metatarsal articulation. In the customary treatment of these cases a Symes or Pirogoff operation would undoubtedly have been made. I explained to the patient, who was a railroad man, that I would like to experiment to a certain extent upon this foot, that the experiment would not be injurious to him in any manner, only that it might retard for two or three weeks the repair in his case. He was very willing that I should try anything that would save any part of his foot. The tissues, as in many railroad injuries, were completely pulpified, lacerated and contused. The point of complete separation, as I have described, was at the tarsal and metatarsal articulation. You will all readily understand the amount of retraction there is in the skin after an injury of this kind. I proposed to the man that I make a complete section, that is, taking my knife and trimming all the tissues transversely at the seat of the injury across the foot, going back just a little above the metatarsal articulation. The head of the metatarsal bone was removed by the saw or forceps, I do not remember which. It was my object to cut it as high up into the tissue as possible. Thorough antiseptic precaution was preserved throughout the entire operation. A moist dressing was applied for four or five days, and about this time it was changed and a stimulating dressing, composed of equal parts of sterilized balsam of Peru and sweet oil was applied directly over the wound, in order to stimulate and secure as early as possible a granulating process. After securing, at the end of about eighteen or nineteen days, a good bed, so to speak, of healthy granulations, I skin-grafted after the method of Thiersch with excellent results.

Now, I believe, in fact I am positive, that I saved at the least several inches of that man's foot, enabling him to perform the duties of a switchman nearly as well as he did before he met with the accident, It would be utterly impossible with a Symes or Pirogoff operation for a man to perform these duties. You know as well as I that many surgeons to-day, especially in the East, are recommending in preference to the Symes and Pirogoff operation, an amputation of the middle or lower third of the leg. Now, what is the result? In this case we have succeeded in getting a foot that a man can perform his duties with. He goes about nearly as well as he ever did. And the result to the railroad is what? This man's case was settled for $200. If a Pirogoff operation, or an amputation at the middle third, which is often preferred, had been performed, the amount paid would have been perhaps $2,500.

Now there are a great many points to be observed in the treatment that I have applied to this case, and the other one which has been equally as successful. You all readily understand how slow granulation takes place over a cartilaginous substance. It requires weeks and even months, and by the time you have secured a granulating surface over the articulating surface of the bone, the surrounding granulations are exuberant, broken down, or indolent, and your skin-grafting is a failure. The object is to secure as good a bed of granulations and at as early a date as possible, and I believe you will accomplish the same results that I have in this case.

DISCUSSION.

DR. H. REINEKING, of Sheboygan, Wis.—I was very much interested in the report of Dr. Galbraith, on account of two patients which I have recently had occasion to see. I will first speak of a case Dr. Etley, of New Richmond, presented at the last meeting of the Wisconsin State Medical Association, a case where all the soft tissues of the sole of the foot had been torn off in a railroad accident. As he described it, the bone was perfectly bare. He resorted, not to the skin-grafting of the tissues, but to skin transplantation after the plan of Krause. He showed the patient at that meeting and the result was indeed beautiful.

In a case that I treated recently, an injury resulting from a boiler explosion, the injury consisted in a compound fracture of the olecranon process with a severe scalding of the entire posterior surface of the arm. The burn was of the third degree. The body was also extensively scalded, but in that location just where the elasticity was most wanted after the bones united, there was a very deep burn. Here I resorted to the same mode of skin transplantation, transplanting the whole thickness of the skin down to the adipose layer. The area covered had a length of fourteen inches, and at the widest portion, four to six inches in width. Four elliptical portions were taken from the patient's thigh and cut into small sections and transplanted to his arm. Every particle of this skin, I am glad to say, adhered and in about two weeks' time success was assured.

This process of skin transplantation I believe superior to Thiersch grafting. It is not necessary to have a granulating surface, in fact the granulations were all carefully scraped away in this case. According to Krause, skin grafting in this way can be made on bare bone, cartilage, fibrous tissue, or almost any tissue in fact as long as the surface on which we transplant is absolutely aseptic. Asepsis is the one great requirement for success in these cases. It is not necessary to first have a healthy granulating surface; it can be done in recent injuries; it can be done in various shapes after scraping away the entire skin and, as I say, the healthy granulated surface is not essential.

DR. MAYNARD—In connection with this case, and in the same line of thought, about 1876, or 1877, I learned how to borrow skin for grafting. I did not know anything about grafting then, but I found in an arm injury, for instance, if you cut too close and get a slough just take a piece of strap and put a pine shingle on and make a little steady pulling and it is wonderful how much skin you can borrow with which to cover your granulation. I seldom graft if I can borrow. Make a steady pressure and it is wonderful how the skin will give and will grow. It will apparently make new skin. It probably would not have answered in Dr. Galbraith's case, but had it been my case, I should have put on a little slow tension with a rubber band or a rubber strip over the front and base of the foot, and would have tried to get it that way. If you will try this you will be surprised with the results you will get.

DR. BEVAN—I would like to make one remark in the same line of work on the importance of conservative work in finger and toes and hands in railroad surgery. For a number of years I have made it a point practically never to make a peremptory amputation of any part of the hand after a railroad crisis, except where the part was entirely crushed from the hand, and have not cut away any portion of the tissue, except that which was entirely destroyed. Next in this connection, is the value of a wet boracic acid or borax dressing. I have always employed wet dressings and kept them continually wet in these cases until I could determine the amount of tissue that had been destroyed. Borax or boracic acid in the strength of about one to one hundred is not antiseptic, but it does inhibit the growth of germs and I have repeatedly taken fingers, which were turning black and becoming gangrenous, and wrapped them in wet boracic acid and watched them for from ten days to two weeks. They have simply mummified without any infection. One point I would like to mention in regard to Thiersch's graft and skin transplantation: Skin transplantation is the ideal operation if it can be made successfully. It can not be made successfuly in enough cases to warrant us in employing it. Skin transplantation certainly in large masses, as far as my own experience is concerned, and it is fairly wide in this matter, has not been successful in more than about half of my cases; in about half the cases there has been failure of fusion, and this same experience has been met with in the hands of my colleagues at the Presbyterian Hospital. There is this objection to transplantation, that if you remove a large area of skin and it fails to unite you have done an injury to the patient and he feels that he has been to a certain extent mutilated by the removal of the entire thickness of his skin. In the Thiersch graft, where you split the skin, you can remove fifty square inches from the patient's thigh, and in a week he is practically as sound and well as ever. So I do not believe that we could make this statement that skin transplantation will take the place of the Thiersch graft because of the facts that I mention.

DR. REED—I only have a word to say. I regret I did not hear all the doctor's report. I wish to speak only in reference to the manner of transplantation of skin. The objection spoken of by Dr. Bevan is one which we all know patients are liable to make; that is, in being skinned themselves in some part to cover some other part. It is sometimes necessary to borrow integument from some of their neighbors, and it seems to me that the use of the frog skin in cases of this kind obviates to a large extent this objection, and would give, so far as my experience is concerned, practically the same results. I know of several instances in which the frog skin has been used. One I recall in a patient who had a very large ulcer. This, however, was a varicose ulcer, but it answers the same purpose to demonstrate the use of the transplantation of skin in a case in which I had little confidence. In this case we used a live frog and skinned off the integument of the abdomen and placed it over the ulcer and the results were quite gratifying, rapid, and not only rapid but they were perfect, just as much so as in another case that was operated about the same time in which we used the Thiersch graft. I simply make this suggestion in the hope that it may help out in cases of this kind where we can not get integument safely from the patient or his friends.

DR. KIBLER—One word on the subject of skin graft. I have a plan of my own on that point which I have not said much about. I do not use skin at all, but I use the epithelial tissue, the rough, horny epithelium that you get from a working man's hand. I recently had a case of skin injury received by an elderly gentleman sixty-odd years old, from scalding, some four hundred square inches in area, and to-day his skin is perfect and his muscles are seemingly as limber as ever, without much contraction. Simply take the rough, horny epithelial tissues which you will find upon the palm of a working man, or upon the sole of the foot of any man, and you have a good substance for grafting as you can possibly ask for. Try it.

A MEMBER—I will ask the doctor to give the technique.

DR. KIBLER—First the ulcerating surface should be washed thoroughly with a boracic acid solution; then take a little piece of thin tissue from this horny surface that I speak of, not thicker than tissue paper and not larger than a split bean perhaps. This is placed directly upon this raw surface, covering it with a protective, over which is put adhesive plaster. When the plaster is removed it does not disturb the grafting whatever, whereas, if you should put the plaster directly on the grafts themselves, they would likely be withdrawn whenever the plaster was removed. This little mackintosh covering or oiled silk, if you wish, affords a substance to give you the finest results.

THE USE OF COCAIN IN MINOR AMPUTATIONS.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons held at Chicago, Ill., Sept. 25-27, 1895.

BY C. M. DANIELS, M.D.

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Appreciating that at this, the second meeting of the Academy of Railway Surgeons, many papers of highly scientific and scholarly character would be read, I have ventured to tender one that may be as a rest "between the acts," but of a strictly practical character, and based entirely upon personal experience. I offer this brief paper as a fragmentary contribution to the literature upon cocain as a local anesthetic.

The question and study of anesthetics is always germane to the subject of surgery, and as railway surgeons we are close observers of the action of chloroform, ether and the other essentials used by way of inhalation for the purpose of producing neurotic narcosis for the relief of pain in our operative work.

Safety is, or always should be, our first consideration. The loss of sensibility, known as anesthesia, may be general or local, being dependent upon the agent and method used to induce the same; and the scope of this paper deals entirely with that of a local character. If experience is of value, I believe it will lead many of our surgeons to entirely abandon the use of chloroform, ether, etc., in minor amputations.

I feel that there are many members of the Academy, as well as others, who may have greater experience than myself, but from the meagre amount of literature upon the subject, they certainly have not given us the benefit of their experience. The text books mention the subject of cocain in minor surgical operations, but do not clearly define the technique in a way sufficiently practical to cause the surgeon to give the subject but a passing glance.

All do not have the benefit of hospitals, with trained assistants and conveniences and I hope this paper may especially benefit those surgeons who do much of their work out along the line where minor amputations are of frequent occurrence and the surgeon is without competent aid.

For the past eighteen months I have used muriate of cocain in very weak solution, *exclusively* in minor amputations and feel like shouting "eureka" at the conclusion of every operation, except, of course, that I am not entitled to use the personal pronoun.

For the benefit of those interested, I will briefly detail method of procedure, taking for instance a crushed finger.

If the stump is long enough, after putting it through he preparatory toilet of soap, water, ether, etc., I tie

a narrow wet bandage which is always at hand and acts as a firm cord, tightly around it close to the knuckle joint. Then with a clean hypodermic syringe and needle I inject about ten or fifteen minims of a 2 per cent. solution of cocain, freshly prepared with sterilized water, immediately behind the proposed incisions, introducing the needle as follows: First upon the dorsal aspect letting it enter about one-half inch to one side and expelling three of four drops of the solution. I then partially withdraw the needle and gently turn to the opposite side expelling the same amount; then partially withdraw it again up to the median line and deposit an equal amount at the point of entrance immediately beneath the skin.

You will note that fully one-half of the finger stump has received the solution and with but one puncture of the skin. Turn the hand over and repeat this from the palmar surface and in six minutes go ahead and amputate the finger and your patient will be in blissful ignorance of the pain. After completion of the operation and before closing the flaps squeeze, or I might say "milk" out, the cocain solution from the tissues, which can be quickly and readily done. Remove the constricting bandage, see that all bleeding is controlled, close the flaps in the usual way, and you will have performed a painless operation and one entirely free from the danger of poisoning, for if properly done, in my judgment, there will not be to exceed $\frac{1}{3}$ of a grain of cocain absorbed, which amount we all know is absolutely harmless.

One-fourth of a grain for each finger I deem ample, and as I commenced with a 4 per cent. solution in the early part of my experience and am now using but a 2 per cent. I think the strength may be still further reduced, but recommend that a larger quantity of the solution be injected, practically "flushing" the tissues at and immediately above the point of operation.

For operations at the knuckle or immediately behind, I use the same method with the constriction, but find it necesary to work a little more rapidly on account of absorption of a portion of the sotution as the operation proceeds.

While I have especially referred to the hand in a descriptive or explanatory way, operative work under cocain may, in my judgement, be liberally extended.

DISCUSSION.

Dr. Elisha Griswold—I would like to ask Dr. Daniels whether in his opinion, when injecting cocain as described in this paper, the anesthesia extends from the point of injection some considerable distance from the end of the finger; that is to say, suppose you make a flap half an inch from the end of the finger, at which point you inject the cocain, is that point anesthetized as a general rule? Furthermore, I will say, I have used cocain a good deal in small operations, not much in amputation of the fingers, but to a considerable extent in the excision of small tumors. In some cases I have used it as a matter of election because the patients desired it. One patient, an old lady, 81 years of age, had an epithelioma involving the bridge of the nose and extending slightly into the cheek. She had insufficiency of the aortic valves, so that she was not a good subject for anesthesia by the ordinary method. But she was quite willing that cocain should be tried, and in her case about three years ago I injected it at points about one-quarter of an inch apart all around the tumors as near as I could. I used a 4 or 5 per cent. solution. In removing the tumor I cut a branch of the nasal artery, but by compression and torsion I was enabled to stop the hemorrhage, although it was quite a time before it was completely arrested. An effort was made to cover the open surface of the wound as well as possible with skin, but I could not do so because there was not enough skin with which to do it. When I went to insert the sutures some little distance beyond the point at which the cocain was injected, the patient felt the needle somewhat but not severely, and I find this to be the case with the removal of other tumors. In the case of a fatty tumor on the back I found, after removing the tumor and getting ready to insert my sutures, that the patient felt the needle, although she had not felt the knife in the removal of the growth. And so I would like to know if Dr. Daniels in his experience in amputating fingers with cocain, can tell us whether the anesthesia extends from the point of the finger so as to give plenty of room to operate, and so that the patient will not feel pain in making the flap.

Dr. Henry W. Coe—Any one who has used cocain to any great extent in surgical practice, especially in very strong solutions, must have seen some very sick patients, for he does not know beforehand exactly how his patients are going to react. I consider cocain a dangerous analgesic, as ordinarily used. I think it is dangerous where a patient has serious heart trouble, and that in such case chloroform would be preferable. I know, of course, that the matter of personal equation comes in here. I know I would much prefer to use chloroform. I remember a case in which I began to operate for hemorrhoids, in which some authors would have said that cocain should always be used, and I am sure will never use it again. My patient came so near dying that I was frightened half to death myself. The method the doctor advocates, however, consists largely in complete saturation of the tissues. He uses a 2 per cent. solution. I have used even a weaker solution than that and a considerable amount of it with which to saturate the tissues. If we use a weak solution we need to operate rapidly because of the fact that the fluid will pass out through the wound, which is a point the doctor did not bring out in his paper.

Dr. Webb J. Kelly—Dr. Coe speaks in the discussion of the use of cocain during an operation for hemorrhoids. I do not know what the experience of other members of the Academy has been, but it has been mine when any operation has to be performed for hemorrhoids or other conditions in this locality, that chloroform or any anesthetic is likely to act badly; and I think probably that this fact is one reason why he has had so much trouble with cocain in operating on the rectum. I have had experience with cocain personally, inasmuch as Dr. Straight, last winter, sawed out a large piece of bone from my nose, using a 20 per cent. solution. They walked me around for three or four hours in order to keep me from dying, consequently I know what it is. Personally, I do not like to use it.

Dr. L. E. Lemen—I do not feel that I can go home satisfied without contributing a little to this paper in the way of discussion. For some time I have performed all amputations of the fingers very much in the manner that the essayist has described, more particularly in those cases that come to the physician's office where it is quite inconvenient to use a general anesthetic. If a general anesthetic were used in one's private office, he would have to wait until the patient recovered from the influence of the anesthetic, and send for a janitor to clean up the mess afterward. I have used a 4 per cent. cocain solution for several years in amputating fingers, the amount being governed by the number of drops I would put in. I wait for fifteen minutes instead of six, after using the injection before I begin my operation, and have my attendants watching to see whether the patient flinches or not. The anesthesia lasts from five to eight minutes, which gives the surgeon the ordinary length of time to perform the operation and insert sutures. Instead of using gauze I use rubber bands. I take a rubber band, drop it in the solution, if I use antiseptics (I keep sterilized water in my office for this purpose), keep it in the solution for a little while prior to giving the injection of cocain, and then I put the band around the finger so as to localize the anesthesia. This

controls hemorrhage completely. I have had no trouble from the use of cocain in this way, and I have amputated as many as two and three fingers at a time. I would amputate one finger, then I would inject the second finger, operate, sew up the flaps, disposing of one finger after another. There is only one objection to cocain, and that is its tendency to produce more or less edema in the neighborhood of the tissues that have been injected with the solution. I believe any solution, even pure or salt water would produce the same effect. While it may not come under the head of railroad surgery altogether, I will say that in children it is not well to use it because they struggle against your efforts. In adults I use it for the purpose of circumcision, and use a rubber band to control the hemorrhage as well as to localize the anesthesia. We will find subjects occasionally on whom, owing to their nervous temperament, no matter how slight the operation may be, cocain has a depressing effect. I have seen people faint from ordinary vaccination, even before I put the lancet to their arms. It is the mental effect, the very thought of being operated upon. In these subjects, where the nervous temperament exists to any great extent, I believe it would be better to use an ordinary anesthetic on account of the depression which may continue for some time; in other words, there is more shock than we ought to have from a simple surgical operation. In people of a nervous temperament I would advise a general anesthetic where it is not contraindicated.

DR. F. J. HODGES—I believe if the gentlemen using cocain will experiment with it a little, they will use much weaker solutions than have been mentioned here and still get good results. A great many men use a solution which would probably be not more than one-half of 1 per cent. of cocain, containing common salt, and a very small proportion of carbolic acid and a moderate amount of morphin. Their pilosophy of this procedure is this, that after all it is the pressure of the fluid within the tissues which is the active factor in producing anesthesia. There are a number of physicians in my part of the country who use regularly this solution in the strength I have indicated and do perfectly painless minor operations.

DR. JOHN E. OWENS—The last speaker mentioned the fact that he thought perhaps even weaker solutions would be useful. Some gentleman wrote an able article upon this matter in one of our Chicago medical journals, in which he recommends the use of weak solutions, and said that almost infinitesimal doses were followed by gratifying results. I suppose it would be in order to mention another local anesthetic, although the paper is on cocain. I would like to call the attention of the gentlemen present to ethyl chlorid, which surpasses anything I have used up to date. It is a fluid contained in a glass reservoir and costs a dollar. It is kept from spilling by means of a cap at the conical end. It is an excellent local anesthetic for the removal of small growths. I have removed a small growth of the breast with it and also amputated a little finger. I believe it is a good substitute for cocain.

DR. DANIELS (closing the discussion)—Replying to the inquiry of Dr. Griswold, I will state that I have always found that I could operate from the knuckle to the distal point of the finger, in injecting between the knuckle and middle joint, without any pain whatever. But it is my practice always to inject the cocain immediately behind the point where I am to operate, and not to inject near the knuckle, but as far down as the operation is to be performed, consequently I am sure of anesthetizing the point desired.

As far as mentioning the use of cocain for the purpose of removing larger growths is concerned, I will say that my paper dealt entirely with its use in minor amputations. I have also used it in removing small tumors as described by other gentlemen.

Dr. Hodges' remark in regard to weak solutions is only an echo of the remark I made in closing, that a much weaker solution can be used with equal benefit. I commenced with a 4 per cent. solution, and have reduced it in some cases to 2 per cent. and the results were the same; only in using the latter I used a little bit more. It may have the same effect he refers to, so far as the tissues are concerned, on account of the presence of what may be termed a foreign body. I also think constriction of the finger under pressure bandage may have something of an anesthetizing effect. I have amputated on several occasions four fingers. I would inject one with cocain, amputate it, then inject another, amputate it, etc. I have not used it in cases of circumcision, but for the purposes mentioned in the paper I have used it for the last two or three years exclusively.

GANGRENE OF THE EAR.

BY S. S. BISHOP, M.D.

Attending Surgeon to the Illinois Charitable Eye and Ear Infirmary; Professor of Otology in the Post-Graduate Medical School and Hospital; Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College, etc.

CHICAGO.

Gangrene affecting the ear is a very rare disease. It is mentioned in but three out of seven books on the ear, in my library. I have never seen a case in private practice, nor in my service at the various hospitals and dispensaries, until the following one appeared at my clinic at the Illinois Charitable Eye and Ear Infirmary:

FIG. 1.—Showing extent of gangrene of auricle (dark area).

Jan. 8, 1896, George T., 2 years old, was admitted as a house case. Five months ago he was placed by his mother in an orphan asylum. Two months ago suppuration of the right middle ear developed and continued to the present time, and five days since, the concha turned black and emitted a foul stench. The characteristics of the pulpy form of hospital gangrene were present, and Dr. Lieberthal, the dermatologist, who saw the case with me, confirmed the diagnosis of gangrene.

The necrotic process involved both anterior and posterior surfaces of the concha to the extent of the dark area shown in Fig. 1, and had begun to invade the integument covering the mastoid process.

The child was placed in the care of one of my assistants with instructions to give a nutritious and stimulating diet, for it was badly nourished, and to

remove the necrotic tissue and apply warmth to the parts so as to increase the blood supply.

January 8, my assistant removed with scissors the diseased concha, leaving an aperture the size of the dark spot in Fig. 1, and also the discolored skin of the mastoid, adjacent to the auricle. The soft tissues of the canal were excised and the mastoid operation was performed, Fig. 2, for the necrotic process had extended to the osseous structures. The wound was dressed with iodoform powder, iodoform gauze, absorbent cotton and an eight bandage. The child rallied well. At 8 P.M. the temperature was 101° F. On the 9th, A.M., temperature was 100.3° F., and the odor had disappeared. A few points of dark grayish discoloration appeared and were removed.

Progress was excellent until measles developed on January 25, followed by pneumonia. Then all granulation formation ceased. The wound assumed a dried, anemic and withered appearance, and the little patient died on January 31. Its mother had just buried one of her other children, all of whom had measles. Had

FIG. 2.—Auricle reflected forward, showing mastoid operation completed.

the child lived I should have resorted to a plastic operation to cover the denuded bone.

Post-mortem examination, as reported by my assistant, showed miliary tuberculosis of the lungs and pneumonia of the right lung, hyperemia of the cerebral meninges, hydrocephalus; heart normal.

Among more than twenty thousand cases of diseases of the ear treated at the Infirmary we had no record of a gangrene of the auricle, although Politzer, Schwartze, Kurckenberg, Moos, Nottingham, Riegler, Eitelberg, Boyer, Obre and Bourdillot have met with it. In the present instance, the cause of the gangrene was a chronic suppurative inflammation of the middle ear and external canal, combined with malnutrition. Whether the auricle had been subjected to pressure or severe cold could not be ascertained, since the mother had not seen her child for five months, and no definite information was obtainable at the orphan asylum.

Gangrene sometimes arises without any assignable cause; but any condition that vitiates the blood, lowers vitality and the powers of resistance, in the presence of a local exciting cause such as cold, pressure, acrid discharges, burns, etc., predisposes to this necrotic process.

Bourdillot and Nottingham reported cases following measles, while in my case this order was reversed.

I am indebted to Dr. Carl Theodor Gramm for the photographs for my engravings.

103 State Street.

THE CAUSE OF DEATH OF PROMINENT PERSONS.

BY RALPH S. MICHEL, M.D.

SPRINGBORO, OHIO.

A curious interest attaches to the demise of a friend. When "the rider on the pale horse" stops at the house of a friend, we seldom fail to inquire the cause of death. Death is to us so deep a mystery. It changes a being full of energy and life and hope, into an inanimate object, with a rapidity that is appalling. We stand aghast in its presence. The friend, whose welcome smile we meet to-day, is dead to-morrow. We eagerly inquire the cause. So it seemed to me that it would be of interest to make a collection of facts in regard to the death of celebrated persons; those whom we have learned to know and love from their written pages; and those whose deeds have moved men's hearts, in the times in which they lived. It is impossible to ascertain the cause of death in many instances. Diagnosis has acquired a degree of accuracy but very recently. In many cases the cause of death is given as "a fever," which is indefinite. And often the cause is unknown or not stated. The following, however, is believed to be reasonably accurate.

Early in the spring of 1616 Shakespeare and his boon companions, Ben Jonson and Michael Drayton, spent the evening at a tavern at New Place. All became too much intoxicated to reach home, and laid out all night on the ground. The consequence to Shakespeare was a "fever" of which he died in a few days. It was undoubtedly pneumonia.

Lord Bacon died at 65, a martyr to science. While riding one winter day, it occurred to him that snow would preserve flesh, as well as salt. Accordingly he alighted, bought a hen, and stuffed it with snow—at which operation he became much chilled. He was too sick to return home, but stopped at the house of a friend. Their kind hands put him in a cold damp bed—the "best room" perhaps—and he died in a few days. Probably pneumonia.

Burton, author of the "The Anatomy of Melancholy," believed in astrology. He calculated by the stars the time of his death. He died at the time assigned, but was suspected of taking something to hasten it in order to make it conform to his calculation.

"O Rare" Ben Jonson had several attacks of apoplexy. As a consequence his mental faculties became much impaired. His last days were dark and gloomy.

Motherwell died at 38 of apoplexy.

Ben Franklin had gout; also cystic calculus and the attendant inflammation of the bladder confined him to bed for a year. He was then 84. The immediate cause of death however was abscess of the lung.

Washington died at 67 of acute laryngitis, complicated with edema of the glottis. On Dec. 12, 1799, he rode over his estate on horseback. It was a day of rain and sleet, and he became thoroughly chilled. He contracted a severe cold, and at the end of two days

was very sick. Before sending for the doctor he had his overseer to bleed him. When the doctor came he bled him again. Still there being no improvement a consulting physician was called. They bled him again. Being no better, they gave him tartar emetic and calomel. They also applied fly blisters to his throat. The medical treatment has been the subject of much criticism.

Edward Gibbon, the historian, had the largest hydrocele on record—as large as a bucket. Repeated operations for relief exhausted him, and he died of a "fever" brought on thereby at 57.

Napoleon died of cancer of the stomach.

Thomas Gray, author of "An Elegy Written in a Country Churchyard" died at 55. He was subject to hereditary gout. One day at dinner, he was taken suddenly and violently sick, with pain in the stomach, and died on the sixth day.

William Collins, the poet, died at 36 of paresis or insanity, brought on by dissolute and intemperate habits.

Akenside died suddenly at 49 of diphtheria.

Burns died at 37. Of convivial habits, he perished from drink and exposure. One day in January, 1796, he dined at a tavern in Dumfries. He was barely convalescent from a spell of sickness, and was in no condition to stand exposure. The night was cold, and Burns, wandering homeward in an intoxicated condition, sat down upon a doorstep, and fell asleep. Rheumatism supervened, and although he lived until the next July, he never recovered. During the last few days of life, he was in a state of low muttering delirium.

Byron was born with "club foot." His mother, who was a misanthrope, always spoke of him as a "lame brat." This defect was finally remedied to the extent of enabling him to wear a common boot. He early showed signs of obesity. This was to him a matter of much chagrin, and he combatted the tendency by very low diet, and medicine. He died in Greece at the age of 36 of heart complication, coming up during an attack of acute inflammatory rheumatism. Death was sudden.

Oliver Goldsmith died at 45. He was a man of somewhat irregular habits, and was attacked with dysuria, probably amounting to strangury. His death was attributed to "James' powders" which he would take contrary to the advice of his physician. But as he died of "strong convulsions," it is likely death was caused by uremia. "James' powders" was a secret remedy. It can not now be prepared as it was by Dr. James, owing to ambiguity in the specifications placed on file in the Court of Chancery. But it is composed of antimonious acid and phosphate of lime, with some sesqui-oxid of antimony. Dr. James was contemporary with Goldsmith, and the powder he used was probably prepared by Dr. James himself. Its action, however, is very similar to that of tartar emetic. If Goldsmith had perished from an overdose of it, his symptoms would have been vomiting, purging, and collapse.

James Beattie died of "palsy."

Robert Fergusson, who was intemperate, died insane.

Chatterton died at 17, of arsenical poisoning—a suicide. He was driven to the act by poverty and neglect.

Falconer, the author of "Shipwreck," was drowned by the foundering of a ship off the east coast of Africa.

Martin Luther died of "violent inflammation in his stomach."

Cromwell died of remittent fever.

John Leyden died of the same fever in Java.

Sir Walter Scott had several strokes of apoplexy. His memory failed, and softening supervened. The end came at 61.

Shelly was drowned by the capsizing of a boat in the bay of Spezia.

Keats and Charles Wolfe, both died of consumption.

Voltaire died of strangury, probably due to enlarged prostate. Very much has been said by ecclesiastics about the agony of his last days, as though it was a judgment for his outspoken agnosticism. What nonsense! In the days of 1778, when this condition received no treatment worthy of the name, what physician would doubt but that the last days of Voltaire dying at 84, of strangury, must of necessity have been agonizing?

Galileo had stone in the bladder. With care he might have lived to shed upon that benighted time the rays of his intellectuality much longer. But he and the church differed on astronomy. Galileo asserted that the earth travels around the sun. The church would brook no such heresy. Galileo was dragged out in winter, jolted over rough roads in bad weather, to appear before the Inquisition. Exposure, imprisonment and ill usage killed him—a martyr to progress.

John Milton died at 65, of "gout fever," or "gout struck in," as it was called—our gout retrocedent. It is a condition in which gout leaves the joints, and attacks some internal organ.

John Bunyan rode home in a heavy rain, took a "fever" and died.

Sir Isaac Newton was long a sufferer from gout and stone in the bladder. He is supposed to have died from the latter.

Dean Swift once pointed to a dying tree, and said: "I shall be like that tree—I shall die at the top." He had Ménière's disease, producing paralysis, then aphasia, and finally a decay of all the mental faculties. He lived a year without speaking a word.

Edgar A. Poe was picked up in the streets of Baltimore, one morning in 1849, and taken to a hospital, where he died without regaining consciousness. His death was attributed to drink and exposure. There has always been a suspicion that he may have been the victim of an assault. Age 38.

Letitia E. Landon—"L. E. L."—died of an overdose of prussic acid.

Washington Irving died at 76, suddenly, of disease of the heart, in his own "Sleepy Hollow."

TO BE A DOCTOR.

BY BAYARD HOLMES, M.D.

PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO, AND SECRETARY OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Of all callings, medicine and surgery seems to me the noblest. What occupation can be more elevating to its followers, or more benificial to mankind, than the alleviating of human suffering? The work is hard and the pay none too good; but the life of a medical man is active and stirring, and both the study and practice of the science have a singular fascination for those who follow it *con amore*. And not only so, but the scope of its discoveries and of its application is constantly expanding, so that there is always something new to sustain the interest. There are other professions which by the survival of a rather foolish conventionalism, occupy a higher social grade, and in which the

pecuniary return is greater, but to my mind none are so elevated and so elevating as this.—ANON.

The Choice of a Profession.—Many young men, just completing their literary education, are looking about the world for a useful and honorable occupation. Some turn to the church, and here find a field limited in its usefulness by dogmatic predjudice and by contracted sentiment of conservative congregations. Others turn to law and discover in it the most restricted freedom of thought and action and they find it a profession which presents the greatest dangers and temptations to the beginner to lead a life of grasping selfishness. Others undertake some branch of technology and find too late that the young electrical or civil engineer has but a single or only a few possible employers and that he is helpless to command reasonable compensation. Others go or attempt to go into business, only to find at last that all avenues of remunerative trade are filled by greedy corporations, that their small patrimony is swallowed up in a hopeless competition and that they themselves must become the servants of their unequal rival. A few through force of circumstances over which they have no control take up education as a life work and a part of these have those exuberant qualities and that profound enthusiasm which win success and make teaching fill a happy life.

But some will turn to medicine and surgery as the freest, the commonest and the most inspiring of all services to which a good man and true can devote an earnest life. It is free because the doctor depends on no one class of society for opportunity and support. It is the commonest because no class of society and hardly any individual can do without the services of the doctor. It is the most inspiring because it is a life of service diversified by the strongest incentives for study in a field at once scientific and social.

The life of the physician and surgeon is one of devotion. He enters into the confidence of his patient for the good of the patient alone. To him the treasures of home and the destinies of families are entrusted. He comes to his patient in sympathy. He decides upon the conditions of disease. He fixes upon methods of treatment and then he undertakes to carry out the dictates of his own judgment. He performs the function of the advocate, the expert investigator, the judge, the jury, and the executive of the law. No other single man in modern society holds such power of life and death, of health and misery as the doctor does. It is not surprising then that the career of the physician and surgeon attracts men of the highest, the most noble and the most unselfish impulses. To become a wicked physician one must needs have been either a very bad or a very stupid man. An indifferent man after years of medical practice often becomes a true and noble fellow. In no other walk of life is there such training of character, such obliteration of sham and pretense, and such incentives for the cultivation of a kind and helpful disposition.

It is worth while then to consider what sort of a young man is best adapted to become a useful and successful physician and surgeon. What sort of a body should he have? What sort of a mind should he cultivate? And what sort of an education should he pursue?

His body.—The young man who aims to become the most useful doctor should have a perfect body. He should not be lame, blind or deformed. He should have strong and well developed hands. He should have a steady and well balanced nervous system and a cheerful, even hopeful or sanguine temperament. The doctor's life is a hard one. His time is broken, his meals and sleep are irregular. The death rate among physicians is higher than among any other class of professional man. They are more exposed than others to all contagious diseases. To endure these unusual trials the young man who would be a doctor should be free from defects and perfectly developed. It is not enough that his body be strong, it must be well-trained. The medical student should have that dexterity and common sense which an intimate contact with nature and a masterly understanding of nature's laws alone can give. He should be a handy man, ready at all times to do anything or all things. Therefore he ought to train himself in all the arts of home life. He should work in the garden and orchard, noticing every form of life, every manifestation of chemic, physical and biologic force and turning all to the use and beauty appropriate to it. He should put himself on intimate and friendly terms with all domestic animals, learning their secrets and studying their habits. He should follow the sportsman and fisherman and cultivate a quick perception and a sturdy endurance. He should row, sail and swim, climb trees and engage in sports and games of strength suitable to his years and physical development. In no one thing should he try to be first, but rather to be good in all. He should see to it that as he approaches the age of 17 and 18 years he has a proper and adequate development of the thorax, a well balanced musculature and a sharp and quick circle of nervous reflexes. He will naturally be a pretty good manual tradesman, a good carpenter, a fair blacksmith, and a respectable tailor or shoemaker. There are many things he should not allow himself to do. He should not spoil his finger joints with baseball. He should not pinch and deform his feet with ready-made shoes. He should not eat or sleep too much. He should not keep late hours. He should not have vicious habits, such as smoking tobacco, drinking whisky, spitting tobacco juice or munching candy. When this young man decides to begin the study of medicine he should not be less than 17 years old, he should not weigh less than 61 kilograms (135 pounds), and stand 171 c. high in his bare feet (5 ft. 7 in.) His chest on full inspiration should measure not less than 89 c. (35 inches), his head should measure 19.5 by 15.5 c. He should not have any heart lesion, nor any varicocele or hemorrhoids. There should be no evidence of tubercular disease of the lungs. His skin should be clean, tough and thin.

His mind.—The mental training of the young man must be based on the same broad view of life and hope for usefulness. The contact with nature so necessary for physical development is essential also to the healthy growth of the mind to self-understanding and self-mastery, and to a mastery of the outside world. The ear develops in the silence of the woods, in hunting and fishing, in the pursuit of the creatures of air and water, in the strain and concentration of critical movements in games and work. Feeling is the master sense. It grows with the struggles with nature, in play, in work and in the laboratories of the schools. Contact with nature makes a boy truthful to himself, and begets stability of character. The laws of nature are always just, and nature is never deceived, nor does she fail to punish smartly any one who tries to deceive himself.

Contact with real things, develops the real and essential qualities of the mind, curiosity and self reliance.

But the young man who would become thoroughly trained for his profession must not shun men. In all places and at all times he must be a good fellow well met with all human beings. Medicine recognizes no classes, no grades, no social distinctions. Culture, education, social or political position influence in no degree the conduct, obligations or sort of services of the true medical man to his patient. Degradation, crime, misery and unworthiness do not detract from the claims of the sick to the services of the true doctor. Therefore the young man ambitious for medical service and usefulness must early begin to fraternize with all sorts and conditions of man. He must live with all kinds of people. When he goes out for a tour on his wheel he will have ample opportunity to meet familiarly many peculiar folks. While a tire is being mended the time can be put to advantage by a talk with the village shoemaker. Every vacation should be spent thus in learning thoroughly and intimately some new phase of life. There are no more learned people than the tramps. Their acquaintance should therefore be cultivated. This can never be done except by a familiar life with them. In his own home the young man should be helpful and sympathetic. Mothers are usually wiser than fathers and more easily approached, but there are thousands of fathers whose hearts are aching for the confidence and affection of their sons. Therefore cultivate father and mother. It is a great loss to a boy to have no younger brothers and sisters to train him in self-sacrifice and helpfulness, but in other situations in the neighborhood, in the church and in the school almost the same end may be attained.

The ordinary high school course should be finished both because it will give a good preparation for college and because the boy can thus measure himself with all the boys in his community and learn to know on a common level all alike, the sons of the rich and the poor, of the cultured and uncultured.

Happy is the young man who has a real teacher during his years of preparation for college. This is perhaps the most important of his years of education in school. He is then most moved by his models and most directed by the purposes and aspirations of others. During this time his library should slowly grow. The books he loves should be put in handsome covers on his shelf. He should have the faces of a few of his heroes on the walls of his study and some good work of his own hand should be put in a place of honor. Much that he thinks good now may later be thrown into the rubbish, but for the present it is good.

During the high school course no effort should be made for high marks. Nearly all boys from ten years up to eighteen are far behind girls of their age. He should not fret or worry or get nervous during this trying time. He must do his best with a reasonable number of hours of study and let the rest of the time be put in at games and sports, at work and excursions.

Above all things he should learn to read and write English before he leaves the high school. He should prepare for college by taking Latin and Greek because these are the best acquired during early life. He should finish his high school and enter college with a full line of credits in Latin and as much Greek as he can get. In exceptional cases high schools have good teachers of modern languages and sciences, but unless this is the case he should take as little as possible of the time necessary for Latin and Greek for these "soft snaps" as they are often called.

The Literary Course.—In his college course he should continue one of his classics for at least two years. Probably he will select Latin. Greek is however more humane, inspiring and refining. He will find it possible now to take up a thorough study of physics, chemistry and biology. There is really no end to any one of these great fields of nature and no part of nature is unfruitful to the young medical student. It is rather the development of the scientific conscience and the scientific method than any thorough knowledge of any of these subjects that is sought for. He should select, therefore, teachers rather than subjects. If he can do advanced biologic work, especially in comparative anatomy, in physiology and in histology, it will be a real help in the professional school. Experimental psychology as taught in many universities is invaluable both because of its intrinsic usefulness and because it is a fine study of the value of evidence in observation.

Among the studies of the university years some course in sociology should be selected. Under inspiring teachers who use the seminar and laboratory method this department furnishes the basis of the most useful study. English literature and history ought also to occupy a large amount of time and study. When the mind has been prepared for historical studies by the removal of predjudice and by familiarity with all classes of men and their various lives and labors, history has a strong influence in making character. Above all things then the college course must be finished and the bachelor's degree taken. Honors should not be sought for during this course but all work should be thoroughly and well done. Something should be completed every year, some essay, thesis or investigation. Some paper should be published in the best college journal or read to a society.

When the college courses is needed and the young man is ready for the medical school, he should find himself prepared as follows: He stands well in all classes and has a good record in athletics. He reads biologic and chemic theses in German and French understandingly. He has an intense interest in some department of biology or chemistry, and a general knowledge of physics, chemistry, biology and anthropology. A few medical schools give such students special privileges, such as a shorter course—three years—or an honorarium in fees.

The Medical School.—The study of medicine now requires four years in the lecture rooms, the laboratories and the clinics of the medical college. There is no need of the preceptor who used to play so important a part in the medical education of our grandfathers, but the friendly services of an educated physician is just as valuable as ever. He will help the student select the school in which he will study and he will give him useful object lessons in those problems of daily practice, not to be learned from books nor in the school, and he will show him many interesting cases in a manner best adapted to close observation at a time when the student has abundant leisure for study and meditation.

The study of medicine is the development of knowledge of physiology, pathology and therapeutics; the living healthy human body, the human body sick, and the methods of treatment. Anatomy, histology, em-

bryology and hygiene are parts of the first, pathologic anatomy, microscopic anatomy, and clinical medicine are parts of the second; and the practice of medicine and surgery in all their divisions are parts of the third. These groups are pursued in our medical schools somewhat in the order mentioned and they consume each about a third of the time and labor of the course. Each group has a very gradual merging into the other groups and no one branch of medical study stands alone. If these three groups be represented by three overlapping circles an idea of their interdependence can be gained.

The study of anatomy seems to many at first thought very repulsive, but few men find it distasteful after the work is seriously begun. This is a branch of medicine which is well worked out and may be looked upon as relatively complete, yet there are still some dark contents even in anatomy and the ambitious anatomist will find room for adventure.

Physiology is the greatest of all the foundation studies of medicine, new discoveries are made in this department every year. Physiology is best studied by the laboratory and seminar method. Lectures are valuable also when given to students with sufficient knowledge derived from the laboratory work and from reading. Much good teaching of anatomy, physiology and histology is now done in the universities and colleges of the country. The study of pathology and therapeutics can best be carried on where many post-mortems are held and where large ambulatory and hospital clinics are to be found. The closer the student comes to the patient and the more careful he studies each case, the better able he will be to read pathology and therapeutics understandingly. The examinations for the medical degree are now usually held at the end of each year of study. Credits are given for work done and when the necessary credits are received and the necessary time spent at the school the doctors degree is granted. In some States this degree carries with it the right to practice medicine and surgery, but in other States an examination before a State board is necessary. Students of the better colleges are usually able to get the certificate to practice, a year or so before they are entitled to their degree. If the student can get his certificate before he graduates, he sometimes finds an opportunity to practice and get valuable experience. The medical course in the very best equipped schools is still very inadequate. Sometimes the student feels this deficiency. The better the student and the better he has done his work the more likely he is to feel his need of further study. The place for this further study is the hospital.

The Hospital Course—The conscientious young doctor of medicine must immediately take a course of about two years as a resident physician in a hospital. He can obtain the best position only by an examination. These examinations are usually held at the end of the school year. They are unfortunately confined to written papers. Usually these examinations are set by men who have no experience in teaching and as a result they are a poor test of fitness of the applicant for the position. Much depends therefore upon a ready wit, rapid and clear answers and an ability to detect the foibles of the examiner. It is purely a game of chance. The well prepared men are, however, at an advantage, but stuffing and cramming so disastrous to true scholarship are encouraged. Under present conditions only a small proportion of graduates in medicine can secure hospital positions. The hospital authorities do not like to board many internes and prefer to overwork them. The hospital furnishes its house staff with rooms, board and washing. Sometimes a small honorarium, a case of instruments or a microscope. All hospitals give a certificate to those who maintain a good record during the term of service. When the young interne begins his service in the hospital, he is assigned the poorest quarters, and is attached to a senior house physician or house surgeon under whose orders he works. He writes histories, takes temperatures and makes chemic and physical examinations on the medical side, or if on the surgical side, he does minor dressings. The senior is usually somewhat exacting but always helpful if his junior is not "too fresh." If he knows his place and is willing to learn he soon has the confidence of all and his mistakes in diagnosis or his clumsiness in treatment are pointed out in a friendly way. But woe unto the junior interne who feels his importance as a doctor of medicine and shows that he feels it. His errors will be held up to ridicule in season and out of season. His clumsy casts and his errors in treatment will be carried before him wherever he shows himself. His meals will be garnished with his blunders and his sleep will be disturbed by visions of his ignorance. When the junior service is over the interne has become acquainted with the rules and customs of the hospital. He usually has for the first time a clear knowledge of the more common diseases and some skill in diagnosis. The next service is one of greater independence and less drudgery. It usually consists in a term in the post-mortem room or one in the examining room. In the post-mortem room the study of pathologic anatomy is for the first time advantageously undertaken. At first there is a distaste for the monotony of the work but at last it becomes under the encouragement of the careful pathologist, almost a passion. Here is felt and seen the real lesions sought for with such imperfect success at the bedside. It will often be possible for the interne to demonstrate on the post-mortem table conditions only suspected at the bedside a few weeks before. These exercises give an individuality and vivid concreteness to ideas of disease hard to obtain in any other way. They stand to the postmortems observed as a student from the benches as a solid model stands to a picture. In the examining room again a new factor comes into the young doctor's experience. Elsewhere he has been considering disease in the abstract, disease as affecting some particular human being and diseased tissues on the table. Now men and woman come to him applying for hospital treatment. He must decide in a few moments and under rather unfavorable circumstances whether or not the man or woman is sick; if sick, then whether it is a disease or condition requiring hospital treatment. If not a case requiring hospital treatment, then what disposal shall be made of the person. Must the person be sent to the poorhouse or to a dispensary. In no other position in the hospital can an interne show himself so much a man as here. For the first time he must reckon with conditions beyond chemistry, physics and biology. For the first time he tastes practice as he will find it in the world outside books and hospitals. Now he will come in contact with hospital authorities who often are inspired with a desire to keep down the number of admissions or limit some particular class of patients. He will feel that the interests of the patients are not properly considered by the

hospital managers and little unpleasantnesses will arise of which before he has only heard fatuous rumors.

Contact with the managers of the hospital is apt to make the interne think less highly of hospitals, of his own position and of medicine and medical charities, but if he is a true man he will endure rebuff, professional contempt and heartless rulings in such a manner as to command from the hospital authorities a reluctant respect for himself, and a recognition of the ideals of professional conduct. When he begins his service in the examining room the examining doctor should tabulate for himself all the cases that require instant diagnosis and rapid institution of treatment. He must be ready in such cases to act promptly and direct in person the first treatment, thus acting for the house physician and surgeon until their arrival. As examples of these emergency cases let me mention sunstroke and poisoning by morphin. In these cases the diagnosis can often be made before the patient is removed from the ambulance and treatment can be begun at once. For his own conduct toward the patient the examining physician must make the strictest rules. Unfortunately the study of medicine abroad has brought to America foreign traditions and customs which are not to be imitated by any American. The unsympathetic and even cruel examination of patients so prevalent now in many dispensaries and hospitals is unbecoming the true doctor. Let your rules be unwritten except upon your conscience if you will but let this be the first: Every person be he diseased, though ignorant, suspicious, dirty, disgusting or cruel deserves gentleness, sympathy and fraternity.

When the interne becomes house surgeon or house physician, his responsibilities and opportunities increase. He now has charge of the wards, gives orders to the nurses, receives and discharges patients and signs death certificates. He makes rounds with the attending physician or surgeon, carries out his directions and is his first assistant on all occasions. This position develops self-reliance, loyalty and dignity; self-reliance because the house physician is chief in the absence of the attending man, loyalty because there always should exist the same relations between the interne and the attending man that exist between the doctor and his consultant in outside practice, and dignity because the house physician or surgeon has one or two junior internes, several nurses and all the patients looking to him for service, advice, direction and assistance. It is a fact that some attending men and even some hospital authorities do not have this exalted idea of the position of the house surgeon and house physician. Some few attending men at the beginning of their services are arrogant and overbearing and a few take delight in scolding and publicly humiliating a house man. But such instances are unknown among gentlemen and are rare as hospitals go. These boors must be endured with dignity, and an early opportunity should be taken by the interne in the quiet of the attending man's home for an understanding. The position is everything to the house surgeon, and he should be as diplomatic and yet so open and firm as to secure an adjustment of the difficulty. It is necessary in some cases to resign or humbly endure abuse. Such unfortunate examples of attending men are overbalanced by those who take the never ending stream of house men into their hearts and lives and homes. These attending men are always sought for. They are met by the internes at the door of the hospital. They are relieved of the every burden possible. For them the histories are all well written and carefully digested. Chemic and pathologic examinations are made in advance and the fluff is cleared away for the serious work of diagnosis or treatment. These men find the ward, the operating room and the laboratory in order at their coming and all the surroundings adapted to the best professional work. Their cases are watched and cared for with more than necessary fidelity, and their clinical material is worked up by the house man greatly to the advantage of all concerned.

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI.)

BY BYRON ROBINSON, M.D.

PROFESSOR OF GYNECOLOGY POST-GRADUATE MEDICAL SCHOOL, CHICAGO.

(*Concluded from page 565.*)

The internal border of the broad ligament is where it diverges to receive the uterus. It is the junction of the lateral border of the uterus and broad ligament. This internal border of the broad ligament is very important, as it has relation to the side of the uterus and uterine artery as it courses through the internal edge of the broad ligament. The figure I chose to

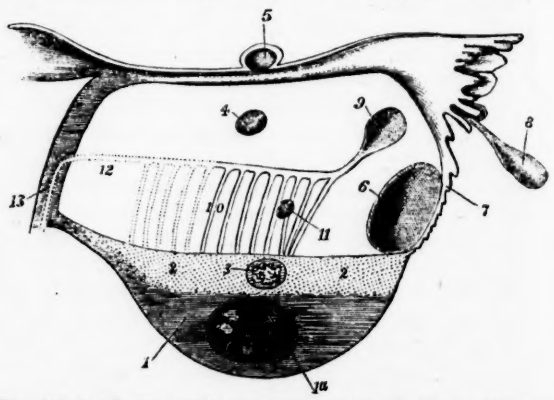


Fig. 60 (after Doran, 1884) represents a diagram of the structures in and adjacent to the broad ligament. 1, framework of the ovary; 1a, simple or glandular multilocular cyst; 2, tissue of hilum, with 3, papillomatous cysts; 4, broad ligament cyst, independent of parovarium or Fallopian tube; 5, a cyst in broad ligament above the tube but not connected with it; 6, broad ligament cyst; 7, ovarian fimbria of tube; 8, the hydatid of Morgagni; 9, Kobelt's tube enlarged. Cysts 4, 5, 6, 8 and 9 are always lined internally with a simple layer of endothelium; 10, the parovarium, the dotted lines represent the inner portion, always more or less obsolete in the adult; 11, a small cyst developed from a vertical tube. Cysts that have this origin or that spring from the obsolete portion, have a lining of cubical or ciliated epithelium and tend to develop papillomatous growths, as do cysts in the tissue of the hilum; 12, Gärtner's duct, often persistent in adults and animals as fibrous; 13, tract of duct in uterine wall, unobliterated portions are, according to Coblenz, the origin of papillomatous cysts in the uterus. All these structures may be seen in the broad ligament by the unaided eye.

illustrate the relation of the internal border of the broad ligament to the uterus is a diagrammatic one from Ranney, Fig. 61. The figure shows the relations of the two blades of the peritoneum to the uterus. It shows that the insertion of the ligament begins at the fundus and ends at the internal os. It is diagrammatic, as the living female does not present such figurative outline in the insertion of the broad ligament into the uterus. The figure is self-explanatory. The next figure to illustrate the internal border of the broad ligament is taken from the classical anatomist, Hyrtl. It beautifully illustrates not only the uterine artery, but it shows the perpendicular arteries in a most natural manner as the nerves follow the blood vessels, it shows the nerve routes. The above short sketch points out the one free border and the three attached borders of the broad ligament, and with the

figures will give some practical views of its use and structure.

We will now take up its anterior and posterior surface. The posterior surface of the broad ligament is that portion forming a part of the walls of the posterior pelvic peritoneal cavity. It is the surface of chief interest to the gynecologist. From Doran we will select figure No. 57 to illustrate the posterior peritoneal surface. Pelvic peritonitis is very apt to occur on this surface. The ovary projects backward on this surface. The relation of this surface to the rectum aids in enhancing peritonitis from restless motion, dilatation and contraction.

The anterior surface of the peritoneum forming the broad ligament is not so large as the posterior. It is best seen by lifting up the uterus, thus putting

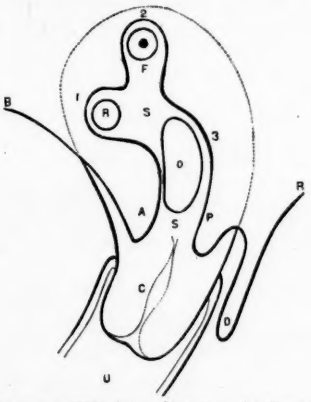


Fig. 61 (after Ranney, 1883) is a diagram designed to illustrate the three minor folds of each broad ligament of the uterus and the structures which are contained between its two layers, as seen in a lateral sagittal pelvic section, cutting the ligament close to the uterus. 1, 2, 3, anterior, middle and posterior folds; R, round ligament; F, Fallopian tube; O, ovary, its anterior border lying in close contact with the peritoneum; V, vagina; D, Douglas' pouch; C, outline of cervical cavity; A, anterior layer of broad ligament; P, posterior layer of same; R, reflection of peritoneum to bladder; S, space filled up with blood vessels, nerves, lymphatics, connective and muscular tissue.

Fig. 62 (after Hodge) is a partly diagrammatic cut to illustrate a transverse section in a posterior view. It shows the relative positions of the peritoneal and subperitoneal tissues and structures. The subperitoneal space is well shown. Both subperitoneal and peritoneal surfaces are equally important to the gynecologist. A few still hold to pelvic cellulitis as the chief disease, but natural pathology indicates that the first, primary and chief disease is peritonitis, and secondly, by inversion by contiguity, cellulitis.

the double blades on a stretch. It is in relation with the bladder and to some extent with the ureter. Both anterior and posterior surfaces of the broad ligament are free in their whole extent. The contents of the broad ligament are closely related to the folds covering them. In fact, so closely related are the ligaments and their contents that they should be discussed together. It must be remembered that the mesosalpinx and the broad ligament are not identical. The broad ligament is larger than the mesosalpinx. The mesosalpinx is a triangular double-bladed membrane. its base is directed toward the side wall of the pelvis, while its apex points to the uterus. The mesosalpinx is bounded above by the Fallopian tube, below by the ovarian ligament and the ovary, externally by the tubo-ovarian fimbriæ and the ligamentum infundibulo-ovaricum of Henle. Its apex points toward the uterus. This triangular double fold of peritoneum is the mesosalpinx, the ala vespertilionis or the middle fold of the broad ligament. It is only a part of the broad ligament:

The contents of the broad ligament are:

1. The Fallopian tube.
2. The ovary and its ligament.
3. Parovarian.
4. The round ligament.
5. The uterine and ovarian arteries.

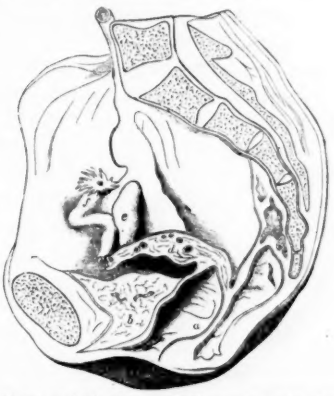


Fig. 63 (after Hart and Barbour, 1883) represents the broad ligament cut to show its contents: f, Fallopian tube; e, ovary; d, broad ligament cut near the side of the uterus. In this cut surface one can note the shape and contour of the ligament, marked d, and also contents, blood vessels, connective tissue and nerves; b, shows a sliced surface of the bladder; a, vagina.

Fig. 64 (after Savage, 1880) is a figure intended to show the relations of the female pelvic organs with the pelvis and with one another. It is a horizontal section of the abdomen immediately above the iliac crests and behind between the last lumbar vertebra and sacral, about an inch above the pubes, and shows well a superior view of the pelvic organs with their peritoneal folds. U, uterus; B, bladder; O, ovary; T, Fallopian tube; M, urachus; L, round ligament; R, rectum; V, vertebra; G, ureter; C, utero-rectal ligaments; A (in front), obliterated remains of hypogastric arteries and A (behind), spermatic vessels.

6. The plexus pampiniformis.
7. Muscular and connective tissue.
8. Lymphatics.
9. Nerves.
10. Remnants of urinary organs and germ epithelia.
11. The ureter to a varying degree in different individuals.

The intimate relations of every one of the above eleven structures to the broad ligament folds in disease is sufficient to call attention to both ligament and structures at the same time. When the peritoneum covering the contents of the broad ligament is infected the consequent inflammation may spread to

any and all the structures. Infection which produces broad ligament peritonitis may produce parovarian cysts, phlebitis, and straighten out and dilate the vein. It may infect the ovary, causing cystic degeneration or lymphangitis. In some fifty bodies which I have examined carefully I found that old pelvic peritonitis had involved the connective tissue in the broad ligament, producing veritable cellulitis. Such bodies showed pelvic cellulitis in about 10 per cent. In some, cellulitis was so severe that the ureter had, during contraction and dilatation, while the soft exudate existed, tunneled out a hole and held it firmly and stiffly open. Myoma may develop in the broad ligament. The utility of the broad ligament as a peritoneal fold may be enumerated as:

1. It is a bed for structures.
2. It preserves the definite relations of its contents.
3. It holds its organs so related that function coördinates, *e. g.*, tubal peristalsis and ovulation are so coördinated by the ligamentum ovaricum that the ovum is definitely carried into the uterus.
4. The broad ligament acts as a guy rope to the uterus. It is a secondary uterine support. However, its chief office is to transmit and sustain structures.

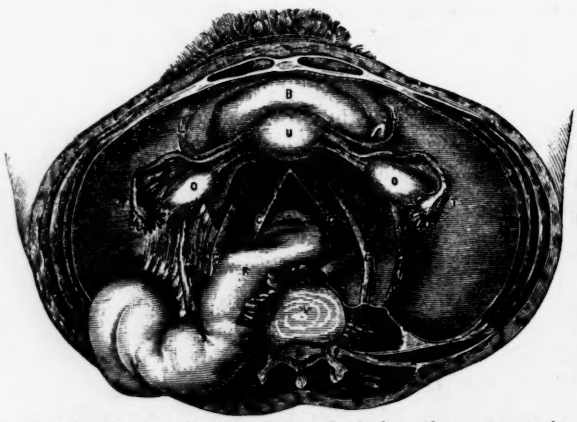


Fig. 65 (after Savage, 1880) is designed to show the sacro-uterine, or better, recto-uterine, ligaments. It is an excellent diagram, in which the uterus is drawn well downward in the vagina by a volsellum forceps. The noticeable features in the figure are the peritoneal folds posterior to the uterus, as AA, spermatic vessels GG, ureters, and CC, recto-uterine ligaments; B, bladder; U, uterus; R, rectum; V, vertebra; O, ovary; T, Fallopian tube (fimbriæ); L, round ligament. The proximity of the ureters, GG, to the uterus, should be ample warning to surgeons in operative procedures. This figure merits attention. It shows the mechanism of the structures supporting the uterus and opposing its displacement.

The sacro-uterine ligaments or utero-rectal ligaments are the chief uterine supports. They are known as the folds of Douglas. These folds contain muscular fibers and were called by Luschka retractores uteri. The muscular fibers which they contain are a continuation of the vaginal walls, so that the vagina and the utero-sacral ligaments together form a supporting beam on which the uterus rests. The folds of peritoneum are well seen in the figure which accompanies the text, taken from Savage. Many dissections have convinced me that the utero-rectal folds of the peritoneum are the chief supports of the uterus, especially prolapsus uteri. They are very strong folds. These folds are subject frequently to a chronic inflammation which shortens or thickens one or both. The disease of the ligaments seems to be due to a slow, progressive, infectious process. By practicing traction on the uterus it is plain to observe in the cadaver that the main tension falls on the peritoneal folds known as the utero-sacral or, better, utero-rectal ligaments. They are primary uterine supports.

Minor peritoneal supports or ligaments will be described with the visceral tracing of the peritoneum. The pelvic peritoneum is thrown into frequent folds which are accompanied by peritoneal pouches. Hodges' diagram, Fig. 62, shows the folds well. Here the peritoneum like a sheet is spread over the pelvic viscera and its folds tuck themselves in between the visceral clefts. The peritoneal ridges indicate the presence of organs projecting upward from below.

Special characteristics of the pelvic peritoneum are:

a. Elasticity.

b. Capacity to resist infection and trauma.

c. Thickness and strength in the female, over that of the male.

d. Numerous folds and pouches.

e. Extensive subperitoneal areolar tissue bed.

f. The wide range of motion that the peritoneal attachments allow the pelvic viscera.

g. An opening in the pelvic peritoneum in the female.

IMPROVED HYPODERMIC SYRINGE AND REMEDY CASE.

Read by title in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY ELMER LEE, A.M., M.D., PH.B.
CHICAGO.

In these utilitarian days, that which comes the nearest to the urgent requirements of the practicing physician during the hours of the day and the visits of the night, in the way of supplying remedies for emergencies, is the desire of practical physicians. There are times when drug stores are inaccessible, and there are times when there is not a minute to spare between the arrival of the doctor and the demand for immediate action, which make it imperative that remedies should be carried by the physician.

The present hypodermic case, which is for the first time brought before your attention, is not only a hypodermic case, but is also an *emergency* case. It contains a hypodermic syringe of the simplest, and, in my opinion, the best pattern that has ever been made. The syringe is light, it is cleanable, it is inexpensive, it is effective. These are qualities that are to be desired. The syringe is made of glass for the barrel, and hard rubber for the fittings. The needle points are attached to hard-rubber butts which fit the nozzle of the syringe without a thread. This is the simplest form of connection between the needle and the syringe, and it is the best one. The syringe that accompanies this case is durable and sufficiently strong for every purpose for which a hypodermic syringe is intended. It is sufficiently inexpensive, so that instead of having the syringe repaired when a part is broken or lost, it may be replaced at a cost not likely to exceed that of repairing an ordinary syringe. The syringe is placed in the middle of the upper half of the plate on which are arranged the glass tubes containing the tablets. The needles are held in a short glass tube in the middle portion of the lower half of the metal case. On either side of the syringe and the needle tube are spaces for thirteen tubes of hypodermic tablets and one glass tube in which are contained the brass wires for keeping open the needles. These hypodermic tablet tubes lie in regular order and are in sufficient number to provide medication in any instance where a physician may require such medicaments. In addition to serving as medicaments to be used with the hypodermic syringe, they

form, equally well, remedies which may be administered by mouth, thus constituting a remedy emergency case. This is very desirable, for in the present day patients look more and more to the physician during his visits to supply them with temporary remedial aid, and it is a very effective measure for the physician to take from the case carried in his pocket suitable tablets and leave them with proper instructions for the use of the patient. It not only gratifies the caprice of patients, but it is indeed a very useful measure, and one that begets a friendly sympathy from the patient in behalf of the doctor. The patients are eager to be served quickly, and if the doctor has a suitable case of remedies upon which he can draw temporarily, it is fortunate for the patient, and will give the doctor himself considerable satisfaction.

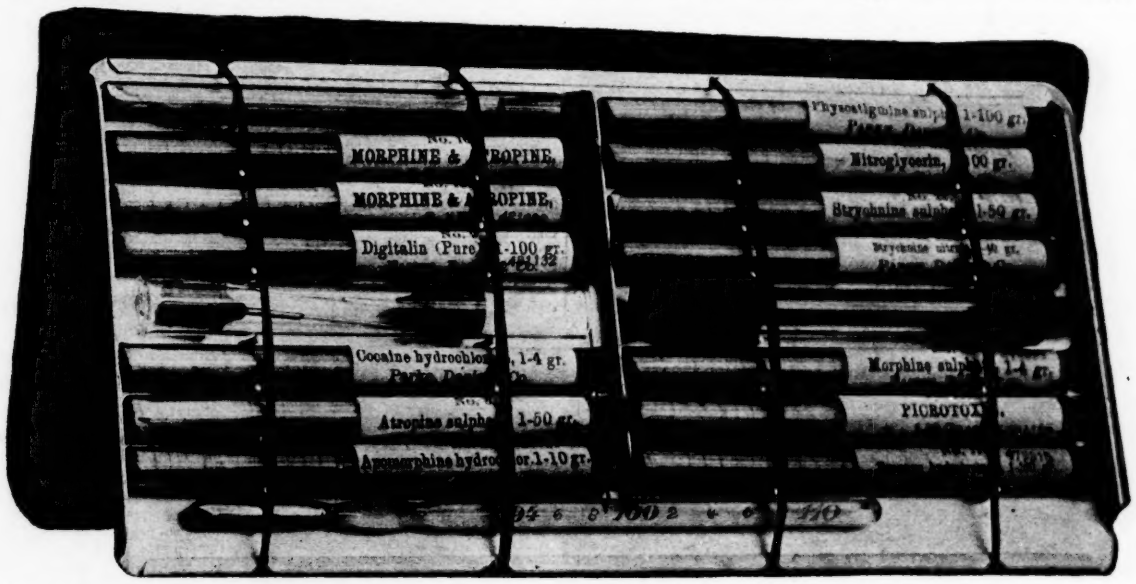
In additon to the hypodermic syringe, the needle bottle and the tube of hypodermic tablets, a place has been arranged on the outer edge of the metallic case for a fever thermometer, which is held in place by a suitable arrangement. It has been proven by experience and usage as not likely either to fall out of its place or to get broken any more than it would if carried in any other manner in the pocket. The addition of the thermometer was a later thought in reference to the perfection of the case, and has pleased me a great deal in being able to have a thermometer so accessible and at the same time avoid carrying an additional piece of furniture in my vest pocket. The case is intended to be placed in the upper vest pocket, and supposed to have the exclusive use of whichever pocket it has been assigned to by the doctor who wishes to use it.

The case consists, as may be seen, of a sheet of aluminum with crimped sides and folded ends in order better to serve the purpose for which the case is intended, as well as to give additional strength. Then there is a partition between the upper and lower half, in the middle, which serves as a rest for the row of bottles and the syringe. The divisions for the tablet tubes are made by metal posts screwed into the aluminum back and riveted, so that they are secure and durable. The weight of the case if so inconsiderable that it is a source of surprise that so many remedies, including the thermometer and syringe, can be carried with so little inconvenience.

The hypodermic case fits into a leather pocket for its protection. In the leather case there is a pocket which is intended so carry an envelope which may be supplied with surgeon's silk and needles and perhaps a few small pieces of adhesive or court plaster; or the pocket may be used to contain any other articles that are not bulky, which the physician may elect.

This combination of hypodermic tablets and thermometer constitutes a small yet ample emergency or remedy case, which may be carried in the upper vest pocket at all times and under all circumstances. It is attractive in appearance, light in weight, and contains enough tablets to meet almost every variety of emergency calling for immediate remedies.

The glass tubes, the syringe and thermometer are held in their places against the metal back by elastic rubber bands. These bands are of no particular kind or quality, and if one should give out, as anyone knows, a rubber band can be easily and quickly procured in any community, and the broken one can with little or no trouble be replaced. Various friends have suggested that a better substitute for the bands would be another metallic covering for the front of the case; others have suggested that there might be a narrow strip of metal passing from one side of the case to the other and fastened with a clasp; another has suggested that instead of using the little posts that are fastened into the back of the case that spring clasps such as are used in some hand cases would do away with the necessity for using the rubber bands or any other method of holding the contents of the case in their places. Now all these suggestions, together with others, are not considered equally good as the simple device of holding the tubes in position by the elastic rubber band. This is sufficiently practical as I know from experience, and it is the most inexpensive and most aseptic method, and at the same time it is the simplest way; and in these days when we are looking to the practical and utilitarian side of every new proposition that promises improvement, simplicity and economy of space are imperative. Now after a great deal of reflection, and having considered the many interesting suggestions of medical friends, it is my conclusion that there is presented in this case, for the use of my colleagues, a series of useful features which surpass any similar provision of which there is any knowledge. We all know how awkward it is to be in the presence of emergencies requiring remedies



and not have our hypodermic case with us, or any remedies at hand; and we all know how vexatious it is to have a hypodermic syringe, at the moment when it is desired to use it, the packings dry and the syringe fail to work; but it must be remembered that any instrument, whether it be a syringe or not, must be kept in working order, and that means that it must receive its proportionate amount of attention; and if this simple syringe receives a very little attention it will last a long time and remain in condition for immediate use as long as any other syringe, and if it is lost or broken it is so inexpensive that it can be replaced at a trifling cost.

The division posts in the metal case have been located especially with reference to taking tubes of a uniform size, such as are made by Parke, Davis & Co. The case, including its leather covering, is shapely, and sufficiently light, not being thick or bulky, it may be easily and naturally carried in the upper vest pocket, at all times providing us with a great variety of useful and convenient remedies.

103 State Street.

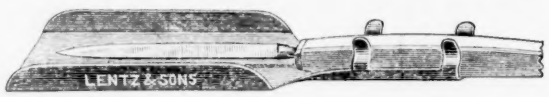
NEW INSTRUMENTS.

A KNIFE PROTECTOR.

BY C. A. VEASEY, M.D.

Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic; Chief Clinical Assistant to the Ophthalmological Department of the Jefferson Medical College Hospital; Consulting Ophthalmologist to the Philadelphia Lying-In Charity Hospital, etc.

Almost everyone who has had occasion to employ a Graefe cataract knife or a keratome, has at some time or other had the misfortune to have had the point blunted or the edge dulled by coming in contact with the sides of the dish in which sterilization was being performed, either while the instruments were being sterilized or while the dish containing them was being moved.



If one has a rack in which to place all of the delicate cutting eye instruments the above misfortune is not likely to occur. But as a rack is not always to be had when needed, the author has devised an instrument shown in the accompanying diagram, so small as to be easily carried in the instrument case, which will protect the point and edge of the knife while being sterilized or moved about prior to the operation.

The device is so well shown in the diagram that any detailed description would be superfluous. Suffice it to say that it consists of a body, the sides of which are sufficiently high to protect the edge of the knife, extending from which we have an arm for the support of the knife handle, the latter being held firmly in position by a double spring. It is made from one piece of metal so that it can be completely and quickly sterilized.

The keratome protector is made similar to the above, the only difference being that its sides opposite the blade are sufficiently high to protect the edges and point of the largest keratome.

I am indebted to Messrs. Charles Lentz and Sons, of this city, for their assistance in perfecting the device and for the above cut, from whom the instrument may be obtained.

47 North 17th Street.

SELECTIONS.

Operations for Prostatic Hypertrophy.—Our foreign exchanges all contain articles on this subject, recommending some the resection of the vas deferens, others castration, and still others merely the subcutaneous section of the vas deferens. Each reports cases of relief and cure, some of them almost miraculous. The last mentioned operation has not been performed on many persons yet, but theoretically it answers the purpose completely, as experience tends to show that all that is necessary to reduce the hypertrophy of the prostate gland is to sever the vas deferens in some way; it is suggested by Lauenstein, of Hamburg, in the *Centralblatt f. Chir.*, February 15. Guyon describes some experiments on dogs in the *France Méd.*, 1895, 43, and states it as his belief that the results of these operations are due to the diminished congestion brought about by reflex means. He found that the prostate gland responded more rapidly to resection of the vas deferens than to castration in his experiments on dogs.

Experiments on the Secretory Excitability of the Alimentary Canal. Dolinsky has been making a series of experiments on dogs carrying pancreas and stomach fistulas, which show that the secretions of the pancreas are stimulated when the lining of the duodenum comes in contact with acids—diluted vinegar acid, mineral acids, lactic acid, or sour drinks (kwass), etc. It also affects noticeably the secretion of the gastric juice. Alkaline liquids do not produce it, nor neutral liquid foods, when the latter are introduced without the knowledge of the animal, as this always stimulates the secretion of gastric juice. Special experiments with dogs who had, besides the two fistulas, an opening into the esophagus, showed that the psychical effect of giving food, even when the animal was deceived with pretended food, was to excite the secretion of gastric juice, the hydrochloric acid of which stimulated in turn the secretion of the pancreas. Dolinsky considers these facts important in a teleologic sense, as the alkalin secretion of the pancreas neutralizes the acidity of the gastric juice. Fats also excite a reflex pancreatic secretion, and alcohol in a slighter degree. *Centralblatt f. Chir.*, February 8.

Is Surgical Intervention Warranted in Primary Renal Tuberculosis? This question was the subject of an able address delivered before the last French Medical Congress, by Dr. Pousson, the well-known surgeon. He first described the different methods of invasion in primary and secondary infection, as the bacilli locate in the vascular zone of the organ in the former case, and produce the phenomena of congestion, pains and hematuria. Secondary infection attacks the zone of the pyramids and is a mixed process starting in the bladder, and revealing its presence chiefly by suppurative lesions, or pyuria. The hematuria is often the only symptom of infection for quite a while, and he cites many cases where it persisted alone for months. Here he thinks surgical intervention entirely uncalled for, as this form is not exposed to complications from other infections, owing to the isolated position of the organ. Only when it is accompanied by severe pains preventing rest, or excessive, weakening hematuria, which forces the hand of the surgeon, as it were, is a surgical operation legitimate, and nephrectomy indicated. In all cases where the other organs seem to be exempt, he agrees with the majority of French physicians, that local attempts to exterminate these bacilli from the system are apt to be fruitless and followed by their reappearance there or elsewhere.—*Archives Clin. de Bordeaux*, January.

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SATURDAY, MARCH 28, 1896.

NATIONAL BOARD OF HEALTH.

Information comes to us from New York that the State Board of Health is aiding in a movement to secure the reëstablishment of a National Board of Health, believing it to be for the best interests of the various States, in warding off invasion of epidemic diseases. Secretary B. T. SMELZER, M. D., has received a letter from the aged DR. STEPHEN SMITH, of New York City, as chairman of a sub-committee of the New York Academy of Medicine, which is considering a bill to be laid before Congress upon the matter.

DR. SMITH says an effort is being made to secure the united action of all medical organizations interested in such legislation on the proposed bill, which has been prepared by the committee of the Academy. When this bill is matured and approved by the profession it is proposed to make it public and invite the coöperation of all the friends of the measure to secure its enactment by Congress.

One feature in the proposed bill is said to include a provision to have a representative member of the profession and of this National Board who shall be a Cabinet officer.

We suggest to the distinguished sanitarian that he print the proposed bill in the JOURNAL now, so that the members may read and discuss it.

THE SURGICAL TREATMENT OF EPILEPSY.

Surgical operative interference for the relief of epilepsy is probablo less popular at the present time than it was a few years ago. The utterances of high authorities like AGNEW and others condemning or rather discouraging the practice, and the well-merited criticisms of many of the reported successes have markedly diminished the enthusiasm that existed with the dawn of modern cerebral surgery, in regard to the operative treatment of this ailment. It would, however, be altogether incorrect to say that the operation of trephining for epilepsy is a thing of the past, for reports are still frequent in medical literature. An article by DR. E. G. MASON in the *Medical News* of March 21 is in evidence of this. The writer takes the view that trephining for epilepsy is a "rational procedure and has come to stay," limiting, however, the operation to well-selected, favorable cases, presumably those in which the convulsive attacks have been of comparatively recent traumatic origin. He does not specify this, however, but expressly says: "If there is evidence of a trauma in a position corresponding to the initial symptoms of the fit, an operation is usually justifiable." This is the only statement he offers that approaches a positive recommendation, and it would evidently only apply to a small proportion of cases. The results he claims as indicated by statistics, are the cure of a small percentage, a somewhat larger percentage improved, and temporary cessation of fits in almost any case.

Even a remote possibility of the cure of such a morbid condition as epilepsy would, in the opinion of many, justify the operation, while admitting for it a certain actual danger to life. To properly estimate its advantages, however, more than the mere apparent results must be taken into consideration. The cure must be rationally connected with the operation and its possibility without it must be excluded. While DR. MASON takes a rather reasonably conservative view of his subject and recognizes the possibilities of mistakes, he evidently is inclined to give the operation all due credit and may possibly be carried away to some extent by his predilections. A certain small number of cases of epilepsy are apparently cured by drugs, another very minute proportion seems to have a spontaneous cure, and cases have been reported of recovery after various operations other that those upon the brain. Any and every procedure that makes a strong mental impression, whether it be a seton in the neck, a change of doctors, drugs or of locality is likely to be followed by a more or less temporary modification of the symptoms, which might easily, following the common practice of many of the reporters of cerebral surgery, lead to the erroneous diagnosis of a cure. While it is probable that most, if not all of the 4.3 per cent. of recoveries he finds after operation are genuine cures, it would be more satisfactory in estimating the value of the operation could we be absolutely sure no other factors had intervened. It is worthy of note in this connection that the only one of the twenty-six cases he tabulates with his paper, that is reported cured, is that of a child, 12 years old, one of a class in which the bromid treatment is sometimes strikingly successful. If there are any

cases which can be considered more amenable to treatment of all kinds than others, a certain proportion of those of young children in whom the epileptic habit has not become fixed and the development of the nervous system is still partly in the future, may properly be counted among them.

The proportion of cures of, or rather of recoveries from, epilepsy, is probably larger than is commonly estimated by the medical profession. Some individuals have epileptic attacks at certain periods of their lives which cease spontaneously and never recur, others have a single isolated attack, due to a special temporary cause. These facts must be kept in mind in estimating cures of this symptom with any treatment, and the rarity of recovery after operation is such that it suggests a comparison with these hardly less frequent occurrences. Any interruption of the attacks may in some instances give a needed opportunity for repair to the irritable cortex, whether this interruption be due to a surgical operation or to any other cause whatever.

While the results of the surgical treatment of epilepsy are not brilliant and a certain reserve is at least judicious in estimating the best of those reported, there is enough of a possible utility in surgical interference in special selected cases to yet prevent the practice from becoming altogether obsolete. In recent traumatic cases, especially in young subjects, it may be admitted as a justifiable operation. Any operation, however, not absolutely necessitated as a last resort for saving life, the statistics of which give, as in this by DR. MASON'S showing, a larger percentage of mortality, small as this may be, than of cases in which it is effective for good. can not be regarded as a triumph of surgery.

THE PHAGOCYTIC ACTION OF GIANT CELLS IN TUBERCULOSIS.

The nature and the significance of giant cells, found in many pathologic conditions, but especially in tuberculosis, have not been satisfactorily determined. The results of elaborate investigations concerning these structures do not agree. The opinions that at present obtain concerning their significance may be divided into two groups. Thus WEIGERT[1] and BAUMGARTEN[2] believe that giant cells (in tuberculous foci) represent a partial necrosis of cells in the act of proliferation. The tubercle bacillus in the interior of the cell exerts sufficient stimulus upon the nucleus so that nuclear division may occur, but a division of the cell body does not take place because it has suffered necrosis under the influence of the bacilli. For the same reason the bacilli in the giant cells are found in the vicinity of the nuclei; the part that is not nucleated contains but few or no bacilli because the soil of this, the necrotic district, has been exhausted. METSCHNIKOFF, on the other hand, maintains that the giant cells have considerable vitality and play an active part against the tubercle bacilli. He claims that there exists a definite relation between the course and the duration of tuberculosis and the phagocytosis of giant cells.[3] METSCHNIKOFF interpreted certain appearances on the part of tubercle bacilli enclosed in giant cells as indicating the gradual destruction of the bacilli, and this belief was supported by KOCH in his large work on the etiology of tuberculosis. STSCHASTNY,[4] SOUDAKEWITSH[5] and KLEBS[6] all side with METSCHNIKOFF. KLEBS regards the giant cells as peculiar tissue formations that serve to protect the organism. Quite a discussion has been carried on between the supporters of these two diametrically contradictory views. WEIGERT[7] regards the destruction of bacilli in the interior of the cells as not proven. The finding of dead bacilli and masses traceable to them in the giant cells does not prove phagocytosis on the part of the latter. And BAUMGARTEN[8] concluded from his elaborate studies that the bacilli in the interior of giant cells do not show the slightest indication of disintegration. He believes that METSCHNIKOFF in his experiments employed cultures that contained bacilli of diminished vitality.

With these contradictory interpretations before him WELCKER[9] concluded to re-investigate the whole question according to the methods employed by METSCHNIKOFF[10] and STSCHASTNY,[10] but avoiding the objectionable features criticised by BAUMGARTEN and others.

METSCHNIKOFF'S observations were based, in part at least, upon experiments made by injecting tubercle bacilli into certain animals closely related to our gophers—the *spermophilus guttatus*. These gophers were thought to be especially refractory to tuberculosis, but it subsequently turned out, as shown by WELCKER'S new experiments, and already explained by METSCHNIKOFF,[11] that the gophers are comparatively insusceptible to avian tuberculosis, but not to human, falling ready victims to the latter, and that METSCHNIKOFF had employed cultures of avian tuberculosis in his work. WELCKER consequently had to repeat the gopher experiments with the bacilli of avian tuberculosis in order to be able to test the results of METSCHNIKOFF. Simultaneously with these experiments he carried along a second similar series, using the bacilli of human tuberculosis. WELCKER planned these experiments so that some light might be thrown also upon the mode of origin of giant cells, and the question of their power of independent motion and of inclusion of foreign bodies. The same quantity of young, luxuriant pure growths of avian and human tubercular bacilli was injected into the abdom-

[1] Zur Theorie der Tuberculösen Riesenzellen, Deutsche med. Wochenschr., 1885, p. 599.
[2] Lehrbuch der path. Mykologie, 1890, p. 574.
[3] Virch. Arch., Bd. 113, p. 63.
[4] Annales de l'Institut Pasteur, iii, 1889, p. 224.
[5] Virch. Arch., Bd. 115, p. 264.
[6] Die Allgemeine Pathologie, 1889, ii, p. 575.
[7] Fortschritte der Medicin, 1888, p. 809.
[8] Baumgarten's Jahresbericht, 1888, p. 181.
[9] Ziegler's Beiträge, Bd. xviii, Heft. iii, p. 539. [10] Loc. cit.
[11] Legons sur la pathologie comparée de l'inflammation, Paris, 1892.

inal cavity of the same number of gophers. After a varying length of time the animals were killed and fresh, warm pieces of various organs, especially of the liver and the spleen, were examined microscopically upon a warm stage at the temperature of the body. Pieces from the different organs were also fixed and stained according to the best modern methods.

The general results obtained from these two series of experiments may be summarized as follows: After the injection of pure cultures tubercles develop in the same manner in the omentum of the animals of both the series and then, after a few days, in the liver and spleen. While the gophers treated with human tuberculosis show a process that gradually increases in intensity and accompanied with multiplication of the bacilli, those treated with the avian form present tissue changes that do not pass beyond a certain limit. The stimulus of the avian tubercle bacilli and their toxic products seems to exhaust itself, necrosis does not ensue in the foci of proliferation and emigration, and there follows a gradual involution of the tuberculous areas.

The first change observed after the injection was a small accumulation of leucocytes and then followed a proliferation of the fixed tissue cells recognized by finding karyokinetic figures in the connective tissue and endothelial cells. The epithelioid cells of the tubercles could readily be traced to the proliferating fixed cells, but also to large leucocytes. The presence of giant cells could be positively demonstrated on the fifteenth day after the injection. The size and the shape of the giant cells were found to vary very much. The same remark also applies to the number, the size and the shape, as well as the arrangement of their nuclei. In their interior there was found occasionally leucocytes, tubercle bacilli in rather small numbers, and also yellowish, sausage-shaped bodies. As regards the origin of the giant cell WELCKER concludes that they are formed by a fragmentation of the nucleus of an epithelioid cell, while the protoplasm of the cell continues to grow. At the same time he was not able to definitely exclude the possibility of their arising from the coalescence of several epithelioid cells because occasionally appearances were observed in which the outlines of individual cells could still be recognized. There were no conclusive evidences noticed of karyokinetic division of the nuclei of giant cells.

Active, independent motion was not observed to occur in the living giant cells examined on the warm stage and the examination as regards this point was very thorough indeed. It will be recollected that METSCHNIKOFF claims that giant cells are capable of ameboid motion and that he looks upon this as an evidence of their phagocytic action. This claim is consequently not supported by WELCKER's results. METSCHNIKOFF also claims that the phagocytic action of giant cells is shown by their containing, in their interior, bacilli tubercle that present peculiar changes of form and of staining reactions—changes that he believes are due to the action of the cells. WELCKER found similarly changed bacilli in the interior of the epithelioid and giant cells of the tuberculous organs of the gophers he experimented with. Strangely enough, he found also that these peculiar, glistening, sausage-shaped masses give the iron reaction with sulphid of ammonium or ferrocyanid of potassium and hydrochloric acid. He believes that these bodies represent tubercle bacilli that have been changed as a result of cellular activity, but he can not definitely exclude the possibility that these evidences of degeneration occur in bacilli that have been acted upon by other not well understood, extra-cellular influences. It is consequently not proven that, in experimental avian or mammalian tuberculosis in gophers, the tubercle bacilli are destroyed directly by the activity of the cells and that a struggle takes place between the cells and the bacilli. WELCKER was not able to find the products of altered tubercle bacilli referred to in tuberculous material from other sources than gopher tuberculosis. Material from various sources, such as the skin of lupus, was examined with negative results as far as this point is concerned. The principal conclusion to be drawn from WELCKER's investigations are that certain gophers are very susceptible to mammalian tuberculosis, but relatively immune to the bacilli of avian tuberculosis; that giant cells are formed in the main from epithelioid cells whose nuclei have undergone fragmentation; that the giant cells in the tuberculous foci of gophers do not possess ameboid movement; and that the power of giant cells to destroy tubercle bacilli is not definitely demonstrated, although they frequently contain altered and apparently dead bacilli. The function of the giant cell in tuberculosis is consequently not well understood.

A VOICE FROM THE PAST.

In connection with the attempt being made by the medical officers of the Navy to obtain the same rank, pay and emoluments as the medical officers of the Army, in which they have received the unanimous support of the AMERICAN MEDICAL ASSOCIATION, the AMERICAN ACADEMY OF MEDICINE, and the ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, the subjoined letter to a former Secretary of the Navy, written eighty years ago and signed by the senior line officers of the Navy, the heroes of the war of 1812, will be of interest to the members of the medical profession. The hearty indorsement of the claims of the medical officers of the Navy to consideration, the generous appreciation of the value of their services, the unqualified recognition of their military status, and the declaration "that justice requires they should, at all events, receive a compensation and rank equal to

what has been enjoyed by the medical officers of the Army," by these men whose names are historic, ought to shame the youngsters, who, as partisans in the wretched line and staff dissension which to-day disgraces the Navy, are seeking to deprive the officers of the Medical Corps of the rights, privileges and dignities of military rank, relegating them to a position of inferiority to the youngest graduate of the Naval Academy, denying them authority even in their own department and according them only an undefined "*disciplinary control*" over their own subordinates.

It puzzles a soldier's, as it does a citizen's, comprehension, why the medical officers in the U. S. Marine Hospital Service, like those in the U. S. Army, should *command* the commissioned and non-commissioned officers, men and employés of the Hospitals to which they are detailed, while the medical officers of the Navy are only ordered "*in charge of*," even such superb institutions as the U. S. Naval Hospitals at New York, Norfolk, and Mare Island, where the military personnel of officers, seamen, marines and employés numbers several hundred persons.

It is earnestly hoped that the members of the medical profession, who are in the Senate and House of Representatives of the present Congress will insist that justice shall at last be done this well-deserving and long neglected body of their professional confrères; and it is also the duty of the military medical men all over the United States, who are prominent members of every soldiers' and veteran organization in the country, to demand of their several representatives in Congress that the medical officers of the Navy shall be put upon precisely the same footing in rank, privileges and pay as their colleagues in the Army. It is time to put a stop to the puerile quibble that medical officers are only in or with the Navy but "not of the Navy," and therefore are not entitled to rank and equal privileges with the line—that they are only auxiliary and non-essential, and to the studied disparagement of them as non-combatants, in face of the statistical fact of their proportional losses by casualties in time of war.

The memorial of the line officers of the Navy at the time of the famous victories of the second war with Great Britain is as follows:

NEW YORK, May 16, 1816.

SIR.—We have heard with pleasure, that it is the intention of the medical officers of the Navy, to address a respectful memorial to you, requesting that measures might be taken by the Department to obtain for them a definite rank in the service, an increase of pay, and the establishment by law of the rank of hospital surgeon. It has also been suggested to us that the opinion of the senior officers of the Navy on the justice and expediency of these claims, might not be without benefit. We feel it, therefore, as a duty incumbent on us to state, that we consider the Medical Department of such great importance to the Navy of our country, that no reasonable measure ought to be omitted, which could have a tendency to retain in the service the professional ability of these gentlemen, who, by their experience, knowledge, zeal and humanity, have procured the esteem and confidence of those with whom they have been associated; and we also beg leave to express our belief that no reasonable inducements would be objected to by Congress, to procure for those who are engaged in a perilous service, and who are constantly exposed to the diseases of all climates, the best medical aid the country affords.

To effect this it must be obvious that the rank and pecuniary emolument of medical officers ought to bear some proportion to what gentlemen of professional eminence would be entitled to in private life; and we consider that justice requires they should, at all events, receive a compensation and rank equal to what has been enjoyed by medical officers of the Army. * *

* * * * * * * * * * * *

With the most profound respect, Sir,

Your obedient servants,

SAMUEL EVANS,
JOSEPH BAINBRIDGE,
S. ANGUS,
JAMES RENSHAW,
GEO. W. RODGERS,
JAMES T. LEONARD,
EDWARD TRENCHARD,
JAMES JONES,
L. WARRINGTON.

To the HON. BENJAMIN W. CROWINSHIELDS, Sec'y Navy.

A similar paper, dated Dec. 13, 1816, in almost the same language and addressed as above, received the following signatures:

WILLIAM BAINBRIDGE.
ISAAC HULL,
D. D. DEACON,
ALEX. W. WADSWORTH.

EXTENSION OF HOSPITAL CORPS DRILL IN THE ARMY.

Of late there has been a marked activity in the Medical Department of the Army, the tendency of which is specially directed toward increased efficiency in field service. We may note, for instance, the recent modification and improvement in the hospital corps pouches, the disuse of the heavy and useless side arms with which the men were encumbered, the adoption of a new litter weighing six pounds less than the old one and the convention of a board to remodel the Drill Regulations. Were a similar activity manifested by the other War Department bureaus we might be warranted in concluding that a prospect of war was operating as a stimulus. It is true that the Ordnance Department is always progressive, that the Commissary Department is considering an "emergency ration" and that the other bureaus are active in their special lines; but nevertheless we understand that, so far as the Medical Department is concerned, this progress in the direction of efficiency for active service is no transient exhibition of energy in view of imminent possibilities, but a steady advance on well matured plans for the improvement of the Corps. We are led to make these remarks by the publication of the 13th inst. of an order from Head Quarters of the Army requiring all enlisted men of the army to be drilled by their company officers in litter-carrying and in the methods of rendering first aid to the sick and wounded; and by the same order the surgeon of the post is called upon to

thoroughly instruct such captains as may volunteer therefor and all lieutenants serving with troops in the professional knowledge required. Up to this time Army Regulations directed that four men from each company should be so instructed. These men were called company bearers and their duties were to aid the sick and wounded until relieved by members of the hospital corps. Some energetic medical officers have already succeeded in instructing most of the men at their posts by having the company bearers relieved by fresh men as soon as they were proficient in their duties. We print the recent order on another page.

THE ATLANTA MEETING.

During the past week, the Editor made a trip to Atlanta to become acquainted with the arrangements for the coming meeting, and after an interview with the chairman of the Committee of Arrangements, Dr. W. F. WESTMORELAND, he became satisfied that the Sections would be well provided for, and that the hotel space would be ample to meet the requirements of the members. Owing to the elevation of the city (1600 ft.) the heat is never great, even in midsummer, and all may expect a pleasant climate. The good people, with that generous hospitality for which Georgia has ever been famous, propose to give the members of the ASSOCIATION a barbecue which will rank with the famous clambake at the Newport meeting.

The arrangements are now complete for the JOURNAL special train, which will carry PRESIDENT COLE, the Trustees and others, direct from Chicago to Atlanta. The "Big Four," "Queen and Crescent" and "Southern" Railways, have been selected as the route of the JOURNAL special, and as said in commercial circles, "none others are genuine." The equipment of this special is as fine as the Company can furnish, and we are sure that our fellow members will be satisfied with the comforts provided for them on the JOURNAL train. This train runs on its own time and will make very few stops. It may be joined at Indianapolis or Cincinnati by sending notice to this office. The rates of fare are uniform from all points, one fare and one third. Please send on your name without delay, if you intend joining us.

Patrons of the JOURNAL special train may be assured that whatever of advantage accrues is in the interest of the ASSOCIATION treasury.

One physician in Chicago, because a pass was not promised for his wife, makes terms with another route whereby his family may have a pass, in consideration whereof he circularizes the profession generally, and advises them to go with him. A drug firm in another city running a medical journal in Chicago, also proposes to send out a special train in the interest of their enterprise. Whether the JOURNAL ever runs another special to any of the meetings depends upon the view the members take of it.

CORRESPONDENCE.

Ophthalmology.

To the Editor:—In the editoral of March 21 entitled "Ashamed of What They Should be Proudest of" the patriotism of the writer has apparently obscured his meaning in some respects. We who practice the art are of course proud of the achievements of American Ophthalmology, and heartily believe that we can do as good work and often do better work, in securing the highest degree of visual acuteness possible for our patients; still it may be doubted if all the strictures and epithets used by the writer in any respect add to the fog-penetrating power of the "eagle's scream." The particular things of which ophthalmologists should be "proudest of," are not very definitely stated, but the implication is that the writer refers to the discovery (?) of the great importance of the eye muscles in producing "eye-strain," blepharitis, trachoma, cataract, and "numerous other ocular ills." As there undoubtedly exists a considerable diversity of opinion upon the whole "muscle business," perhaps he can tell us the particular advances which merit the display of our pride. For example, does he think that coördination of the movements of the eyes in looking at objects, is different from, or differently governed from muscular coördinations elsewhere, as in walking, writing, playing the piano, etc.? Does he think that a "tendency" to imperfect coördination as indicated by the expressions, heterophoria, esophoria and exophoria, is worthy of pathologic classification?

Does he believe in the existence of anything like "muscular equilibrium," and if so, does he believe that it is peculiar to the eye muscles?

Does he think that the human being comes into the world with the eye muscles tuned to a definite equilibrium, and that when there is a failure to "balance" they can be "equilibrated" into tune?

Does he believe asthenopia is a local disease, curable by "refracting" the eyes and equilibrating the muscles?

These questions are asked because unless he regards the condition of the eye muscles, their length, strength and innervation, as having a very great importance, a predominating importance, in the production of not only eye strain but disease, his reference to the American Ophthalmologic Society is apparently motiveless. The members of the Society can speak for themselves, but there are many, not members, who think that too much time at meetings, and too much space in literature has lately been occupied with what might be termed pseudo-scientific essays: and so termed because, while presented in a scientific manner, they failed in the accurate statement of premises. There are many facts in regard to the action of the external eye muscles, separately and in binocular vision, also much that is known about the shape and size of retinal images; many experiments in physiologic optics and a very great amount of clinic history, that must be explained before the doctrine as to the great importance of the muscles in causing disease, or even symptoms of eye-strain, can be accepted.

Without emulating the ardor with which the future, twenty years ahead is predicted for us, it may be altogether too conservative to believe that a dogmatism which ignores the principles of evolution, overrides comparative anatomy, suppresses a long chain of experimental results in physiologic optics, and enunciates a pathologic theory, a new nomenclature, and a wildly brilliant system of therapeutics, all in one decade, may be "out of sight" twenty years hence. Meanwhile "conservatives" who see in eye-strain and muscular incoördinations symptoms having their origin in widely differing conditions, will treat the patient instead of the symptom, with quite as good results as their brethren who equilibrate according to the readings of the phorometer.

"HALLER."

The Standing of American Ophthalmology.

MILWAUKEE, March, 23, 1896.

To the Editor:—Exception may well be taken to the arrangement of ophthalmic surgeons generally and of ophthalmology in the rather rambling editorial published in the issue of March 21, which is intended to impress the reader with the idea that American ophthalmic authors, particularly those of the American Ophthalmological Society are "ashamed of what they should be proud of."

The innuendoes of this editorial are certainly distasteful to the majority of the 267 members of the Section on Ophthalmology of the AMERICAN MEDICAL ASSOCIATION, and may be particularly so to a considerable number of those who are also members of the American Ophthalmological Society. Perhaps there may be cause to criticize the 1895 Transactions of the latter. I am, however, unwilling that such a stricture should be passed upon American Ophthalmology and upon that large and growing (!) class of pratitioners who are particularly interested in this branch of medicine.

This is perhaps the only instance coming to my notice where ophthalmic authors have been criticized for what they have *not* written. Indeed, the large number of technical articles, especially on refraction and allied subjects, appearing in general journals, has been a cause of remark by brother practitioners who are not specially interested and who will not read such. "Eye-strain" has been harped upon *ad nauseam* in this country and ophthalmologists have something to do besides fitting patients with glasses and writing glowing *post hoc* accounts of their wonderful effects.

However, the ophthalmic division of our profession points with pride to the original work of American authors in the line of refraction and muscular anomalies. The records of even the last year show that distinct advances in other branches of medicine have been reported by authors whose professional work and the most of whose writings are of a special nature.

Ophthalmology is still an example for emulation, particularly as it is represented by the Section on Ophthalmology of the AMERICAN MEDICAL ASSOCIATION. I need but refer to the work done by our members and published in our journal since the time that the balance of the AMERICAN MEDICAL ASSOCIATION followed in the lead of the Section on Ophthalmology, when the Section was so ably reorganized in 1891 by the then chairman, Dr. Leartus Connor, of Detroit, and his associates. The methods of this Section were followed by the others and the pace is still set.

The employment of the columns of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for ill-considered editorials which reflect upon a part of its members and tend to promote discord, is to be sincerely disparaged.

H. V. WÜRDEMANN.

Abdominal Section for Lead Colic.

DAYTON, OHIO, March 18, 1896.

To the Editor:—In your January issues which I have just seen, Prof. John B. Murphy reports a case of abdominal section for dynamic intestinal obstruction from lead poisoning and considers it the only one published. I also consider it the only one and am prompted therefore to report the following case of my own: A painter 20 years of age, had had no passage from the bowels for five days, according to one report ten days. Abdomen retracted and soft, but tender on one spot near the umbilicus; considerable pain; vomiting several days, so-called stercoraceous at last. He had had very copious irrigations, oil enemata, moderate salines and six drops of croton oil which probably was vomited. His condition was excellent, pulse slow and regular, temperature 99.6 degrees. Behavior peevish, so that operation was deferred as long as practicable. In the interim a third consultant was called who independently advised an operation. Abdominal section showed nothing, but near the umbilicus a sudden narrowing of the small intestine to the size of a lead pencil, which narrowing continued throughout most of the distal portion of the small gut. The narrowing disappeared when the intestinal contents were "stripped" into it and the slightly swollen and bluish bowel above the obstruction now took on a healthier appearance. More stripping was done and the abdomen closed. He never vomited after the operation and became hungry after the first day; considerable flatus through the rectal tube but no tympanites; occasionally slight tormina in flanks; salines end of second day gave several movements. Further convalescence disturbed only by a neural abscess from a bleeding stitch hole.

J. C. REEVE, JR., M.D.

Satisfied, but Sore.

FREDONIA, N. Y., March 19, 1896.

To the Editor:—Yours to hand soliciting my subscription to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Not until the ASSOCIATION rids herself of the charge of bigotry and infallibility, and treats some of her New York members, who happen to think differently from her, with more courtesy and consideration, do I aspire to be a member or propose to subscribe to her JOURNAL. Besides the *Medical Record* and the *Buffalo Medical and Surgical Journal* fill this niche of journalism very nicely. I have, however, for you personally, my dear sir, the highest consideration and esteem.

Very truly yours. NELSON G. RICHMOND.

BOOK NOTICES.

Physicians and Surgeons of America. (Illustrated.) A Collection of Biographical Sketches of the Regular Medical Profession, edited and compiled by IRVING A. WATSON, A.M., M.D., Concord, N. H., Republican Press Association, 1896.

The published works in this country devoted exclusively to medical biography are few, chiefly "American Medical Biography," by James Thacher, 1828; another volume with the same title by Stephen W. Williams, 1845; "Lives of Eminent American Physicians and Surgeons," by S. D. Gross, 1861; "The Physicians and Surgeons of the United States," by Wm. B. Atkinson, 1878; "Biography of Eminent American Physicians and Surgeons," by R. French Stone, 1894, and lastly the work now before us. This is a handsome volume of 843 double coulmn pages containing notices and portraits of 1,218 physicians and surgeons, twenty of whom are women. According to the preface: "All classes of reputable regular practitioners belonging to accredited medical societies have been recognized from the ablest and most eminent to the unassuming country physician, who tirelessly laboring day and night for the alleviation of human suffering, is as worthy of a record as are many who have become more distinguished." We notice, however, the absence of many whom we regard as at the head of the profession in their locality, the explanation of which is no doubt to be found in the absolute refusal of many physicians to have their biography published while living. As a matter of fact an obituary flavor does attach to all these sketches, because we are accustomed to such reading only after the demise of the individual; but the excellent portraits accompanying the text of Dr. Watson's book remove the funereal flavor and recall to us that our many friends here presented are yet among the active laborers in the work of the profession. The fact that the compiler has been for so many years the Secretary of the American Public Health Association explains why the work contains notices of so many of the men who have devoted their attention specially to sanitary subjects. There is no alphabetic or other systematic arrangement of the biographic notices, for among the first portraits

which we personally recognize are those of Surgeon-General Sternberg, Orpheus Everts, A. L. Gihon, L. A. Sayre, N. S. Davis, T. Grange Simons, S. E. Chaillé, etc. There is, however, at the end an alphabetical index for convenience of reference and also an index by States and localities. New York State has the largest representation, 223, of whom 99 belong to New York city and 31 to Brooklyn. Pennsylvania has 87, of whom 30 belong to Philadelphia; Massachusetts 74, 27 of whom are in Boston, and Illinois has 65, nearly half of whom, 31, are in Chicago. Mexico is represented by 5 medical men; Utah, Arizona and Idaho each by 2, and New Mexico and Delaware each by only 1 medical man.

Clinical Lectures of Abdominal Surgery and Other Subjects. By CHARLES T. PARKES, A.M., M.D., late Professor of Surgery, Rush Medical College, Surgeon to the Presbyterian Hospital, Surgeon in Charge of St. Joseph's Hospital, Surgeon in Chief of Augustana Hospital, Consulting Surgeon Hospital for Women and Children, etc. Edited by Dr. A. J. Ochsner. Cl., 8vo, gilt top, pp. 477. Chicago: The W. T. Keener Co. 1896.

The editing of a posthumous book is attended with many disadvantages, one of the most serious of which is the fact that owing to the rapid changes and new discoveries, our pathology is constantly being revised, and a man's remarks when kept five years may be of a character quite out of touch with the current literature. On the other hand, should the editor interpolate, alter or much change, the work then becomes a joint production. Under the circumstances, Dr. Ochsner has chosen, we think wisely, to preserve as much as possible of the language of the author. The many friends of the lamented Parkes will notice with pleasure that his now classic paper on gunshot wounds of the small intestines, read before the AMERICAN MEDICAL ASSOCIATION in May, 1884 (see JOURNAL 1884), is reprinted here for permanent preservation. But the reputation of Professor Parkes as a surgeon, a lecturer and teacher will not depend upon anything incorporated in this volume. It is rather in the hearts of the alumni of the great college in which he taught, that his memory will be cherished and kept green. His stalwart form, his keen yet kindly eye, his manual dexterity, his quickness, his minute knowledge of anatomy and his overrunning good nature are the characteristics by which those who heard him lecture in the clinic amphitheater made famous by Brainerd and Gunn before him, and to whom he was no unworthy successor, will best remember him. He died when he had just reached the goal for which he had striven for so many years, but the steps by which he reached it are demonstrated in the volume under consideration.

Random Thoughts. By JOHN MULLIN BATTEN, B. E., M.D., etc. Cl. pp. 319. Pittsburg: Published for the author 1896.

This book is the revised and enlarged edition of a previously published book entitled "Two Years in the United States Navy" and which now appears under a new title. The author's description of his early childhood, his schoolboy days and his experiences while teaching school is told quaintly, and with such entire candor as to disarm criticism. His account of the stirring scenes of the Civil War, which came under his own observation are extremely interesting. There are essays on various subjects beside the personal narrative. One in particular on "Matrimonial Alliances" deserves to be widely read and its teachings acted upon by the matrimonially inclined.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections in Photo-Lithochromes from models in the Museum of the Saint Louis Hospital, Paris, with explanatory wood-cuts and text, by Ernest Besnier, A. Fournier, Tenneson, Hallopeau, Du Castel, Henri Feulard and Leon Jacquet. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. London. To be published in twelve parts. Part 2. Price, $3 a part. The Rebman Publishing Co. Philadelphia: W. B. Saunders. 1895. Sold by subscription. W. T. Keener, Chicago agent.

We gave our favorable opinion of this great work on the appearance of the first part, and the execution of this second part is quite equal to the first. Every physician can not go to Paris to inspect the original models with the assistance of a competent guide and instructor, but every one can obtain this representation in colors exactly conforming to the Parisian model and the explanatory text written by those most familiar with the original. This part contains articles and plates illustrating lupus erythematosus of the face, hypertrophic rosacea of the forehead, circinate syphilitic lesions of the skin (confluent and cockade shaped) and xanthoma planum et tuberosum in a glycosuric, icteric and obese subject. These plates are accurately colored, and the models of which they are copies were made by Baretta from life.

Electricity in Electro-Therapeutics. By EDWIN J. HOUSTON, PH.D., and A. E. KENNELLY, SC.D. Cl., pp. 402. New York: The W. J. Johnston Company. 1896.

This work is written, as we are assured, in response to a growing demand which exists for reliable information respecting the physics of electro-therapeutics. An examination of the book justifies the belief that the authors have not only given some very useful and necessary information, but have made the technicalities of the subject easy to comprehend. The illustrations are numerous and excellent.

Atlas of Traumatic Fractures and Luxations. With a brief treatise by H. HELFERICH, M.D., with one hundred and sixty-six illustrations after original drawings by Dr. Joseph Trupp. Cl. pp. 142. New York: Wm. Wood & Company. 1896.

This atlas and treatise constitute a work of practical utility for students, from the well-known Professor Helferich, of the University of Greifswald, who for many years was Thiersch's assistant. The illustrations are generally good and are mostly from recently prepared specimens. They will repay careful study.

A Manual of Jurisprudence and Toxicology. By HENRY C. CHAPMAN, M.D. Second edition, revised, with 55 illustrations and three colored plates. Cl. pp. 254. Price $1.50 net. Philadelphia: W. B. Saunders. 1896. [W. T. Keener, Chicago agent].

The first edition of this manual was published late in 1892, and its popularity is attested by its rapid sale. It is divided into two parts: the first, medical jurisprudence containing fourteen chapters and the second, two chapters on toxicology.

It is an excellent manual in which an accurate epitome is given of the existing knowledge on the subject. It is fairly illustrated and well printed on good paper.

Voice Building and Tone Placing. Showing a new method of relieving injured vocal cords by tone exercises. By H. HOLBROOK CURTIS, PH.B., M.D. Cl. pp. 215. New York: D. Appleton and Company. 1896.

"When music, heavenly maid, was young," we doubt that she wasted many moments in studying the anatomy of the vocal cords or the physiology of articulate language. The modern votaries of music require a knowledge of anatomy of the organs concerned in voice production, their function and the means of maintenance at their highest point of perfection. Those interested in elocution as well as music, will find this volume both instructive and entertaining. The chapter on the eidophone is particularly interesting.

Iron in the Different Organs in Anemia.—Stühlen's microchemic study of the amount of iron deposited in the various organs, shows that the chief seat of this deposit is the liver and spleen in pernicious anemia. In cases induced by an excessive loss of blood or any secretion, the amount of iron in the organism is far below normal, and the liver and spleen are here again pre-eminent. In severe and pernicious anemia iron is also deposited in the kidneys. It extended into the urethral canals, but the glomeruli never showed a trace of it. In the liver it extended over the peripheral portions of the lobes, and in the spleen it was found mainly in the pulp.—*Centralblatt f. Phys.*, February 22.

PUBLIC HEALTH.

Not to Give Cigarettes to Minors.—A law was passed in New Hampshire in 1895 which provides that if any person other than the minor's parent or guardian shall give or deliver any cigarette, snuff or tobacco in any of its forms to any minor under 18 years of age, he shall be fined not more than fifty dollars for each offense.

Amendment of Missouri Pharmacy Law.—A new section was added to the Missouri pharmacy law in 1895 to be known as Section 4625 *a*, which provides that the board of pharmacy shall, upon application, and at such time and place and in such manner as they may determine, examine every person who shall desire to conduct the business of selling at retail, compounding or dispensing drugs, medicines or chemicals for medicinal use, or to compound and dispense physicians' prescriptions as pharmacists; and if a majority of said board shall be satisfied that said person is competent and fully qualified to conduct said business, they shall enter the name of such person as a registered pharmacist in the book provided for that purpose: Provided, that the board of pharmacy, in conducting examinations under the provisions of this section, shall not be permitted to inquire into the source of information of any applicant, but shall subject all applicants to the same examination, and require of all the same degree of efficiency.

Missouri Embalming Law.—A law was passed in Missouri in 1895 establishing a State board of embalming, to consist of five members to be appointed by the governor. It is to prescribe a standard of proficiency as to the qualifications and fitness of those engaged and who may engage in the practice of embalming and the care and disposition of dead human bodies within that State. Applicants for a license must be of good moral character and, upon due examination, satisfy the board that they are possessed of a knowledge of the venous and arterial systems, the location of heart, lungs, stomach, bladder, womb and other organs in the human body; the location of abdominal, pleural and thoracic cavities; the location of the carotid, brachial, radial, ulnar, femoral and tibial arteries; a knowledge of the science of embalming and the care and disposition of the dead, and have a reasonable knowledge of sanitation and the disinfection of bodies of deceased persons, and the apartment, clothing and bedding, in case of death from infectious or contagious diseases. Licenses are to be registered in the Probate judge's office and displayed in the practitioner's office. Renewal of registration with the secretary of the board must be made annually.

New York Opticians Seek Protective Legislation.—Legislation that is protective of the eyes of the public, and at the same time of the interests of the craft of the opticians, is being agitated in New York State, in the form of a bill introduced by the Public Health Committee of the Assembly. Under this bill, a society, called the "Optical Society" of the State of New York, is to be incorporated, and has for its avowed object the improving and regulating the practice of dispensing and refracting opticians in this State. The bill makes it the duty of the society to nominate on or before the third Tuesday in May of each year six persons, from whom the Board of Regents of the University of the State of New York shall appoint three on or before the first day of July of each year, who shall compose the State Board of Examiners of the Optical Society of the State of New York. It shall be the duty of the Board of Examiners to examine all persons applying for certificates to practice as dispensing or refracting opticians of the State of New York, and to keep a record of certified opticians. It shall be unlawful for any person, on and after the first day of August, 1896, to practice as an optician by executing ophthalmic prescriptions for lenses or adapting glasses to the sight, unless he shall have been granted a certificate.

To Teach how Diseases are Spread.—A law was passed in Michigan in 1895 requiring that there shall be taught in every year in every public school in that State the principal modes by which each of the dangerous communicable diseases are spread, and the best methods for the restriction and prevention of each such disease. The State Board of Health is to annually send to the public school teachers and superintendents throughout the State printed data and statements which shall enable them to comply with this law. School boards are required to direct such superintendents and teachers to give oral and blackboard instruction, using the data and statements supplied by the State Board of Health. Neglect or refusal on the part of any superintendent or teacher to comply with the provisions of this law shall be considered a sufficient cause for dismissal from the school by the school board. Any school board willfully neglecting or refusing to comply with the provisions of this act shall be subject to fine the same as for neglect of any other duty pertaining to their office. This law applies to all public schools in the State, including schools in cities or villages, whether incorporated under special charter or under the general laws.

How Sanity is Determined in Michigan.—Whenever any person, upon application to any probate court in Michigan for his admission into any asylum, home or retreat, for the care of the insane, shall have been adjudged by such court insane, and shall have been released from or shall not have been received into any such asylum, home or retreat, application, it was enacted in that State in 1895, may be made to such court for a finding and order, declaring such person restored to soundness of mind. The court is then to fix a time for the hearing of such application, and in case the application is made by the person adjudged insane shall cause notice to be given to the person who applied for the order of admission, if he be found in that county, and may cause such further notice to be given as it deems proper. If upon the hearing of the application, the court, from the testimony given, shall find the person restored to soundness of mind, an order shall be entered in the journal of the court declaring him sane: provided, however, that the testimony of at least two reputable physicians establishing the sanity of the person shall be required before the finding of the court and entry of such order.

New Jersey Health Laws.—Several important acts were passed in New Jersey in 1895 relative to the preservation of the public health. Boards of health in cities of the first class are authorized to grant and regulate permits incident to health matters and fix fees to be paid therefor. They are also empowered to pass, alter and repeal ordinances relating to the public health of such cities, and fix the amount of fines and penalties for the violation thereof, except in counties where there are established county boards of health and vital statistics the ordinances of neither the city or county board are operative until the respective boards shall agree thereto and by ordinance enact and define their separate and respective jurisdictions within the limits of such city. Without this last restriction, much the same authority is given to boards of health in cities containing a population of over one hundred thousand. Where the board of health of any city has established or shall establish a plant for the production of diphtheria anti-toxin serum, and shall be engaged in the production thereof, it shall have power to sell the surplus to any municipality or person desiring to purchase it. The common council or other legislative body of any city of the second class may, whenever it is by it deemed necessary purchase land in said city and erect a building or buildings thereon to be used for a hospital for contagious diseases, the plans being first approved by the mayor and the local board of health. After the building or buildings shall be completed, the same shall be in charge of and under the direction of the board of health. The State board of health or any offi-

cer acting for it, having reason to believe that any milk has been contaminated by the emanations, exhalations or discharges of any person sick with communicable disease may prohibit the transportation or sale of such milk. The manufacture and sale of adulterated candy is prohibited. Boards of health in cities of the first class may condemn and prohibit the sale or use of impure ice or ice cut from polluted streams. Provision is also made to prevent deception in the sale of cakes and biscuit, in the State.

New York City's "House Boat" for the Homeless begins Operation. Employment, food, a bath and clean clothing all in one breath, so to speak, are provided by the new experiment now on trial at the New York City Floating Lodging-house, also called "The City's House-Boat." The following is an explanation, taken from a New York newspaper, of the first day's plan of operations: "A floating lodging-house does not necessarily mean a lodging-house for floaters, though in political seasons it might take that shape. Such a house has been established at Twenty-sixth street and East river, and it looks as if it would prove to be a success. There are baths and beds for quite a company: the baths are compulsory conditions on the beds. Every man who sleeps there has the use of a gown and a pair of slippers and he has two meals. In return for these advantages he must do three hours' work on the day of the opening, the thing that needed most to be done was the clearing of snow from the streets and walks, and the candidates were set to work on the grounds of Bellevue Hospital. They shoveled and swept thoroughly and with a good spirit. The baths were not accepted so eagerly. Some of them shrunk and tried to dodge, but the keepers were inexorable and bathe they did. A few to their own great astonishment, found that they liked it, and they may have formed a habit that will either kill or improve them in a few years. Those who have made a study of tramps hope it will do one thing or the other.

"The apparent success of this enterprise is a little surprising, for heretofore the usual wanderer has objected to making any return for the favors he receives from lodging-house keepers and other such public agents. Perhaps we must look for the solution of this mystery in the fact that the men are employed together, and are therefore able to enjoy each other's society while they toil. There is an infection of purpose and enthusiasm in numbers. Charity is no longer founded on sentiment. We realize from the reports of experts in crime and pauperism that most of the good deeds done by soft hearted persons have tended only to perpetuate laziness and false pretense, and it is becoming harder and harder for the drunken, vicious, useless vagrant to gain the ear of sympathy. There is, however, a need of places like the floating lodging-house, where the worthy poor can escape from the severities of the weather, allay the gripe in an empty stomach, renew self respect in a bath tub, and possibly secure employment that will put them on their feet again."

New Jersey Pharmacy Law Changes.—The pharmacy law of New Jersey was amended in 1895 and thereby changed in the following important particulars. Meetings of the board of pharmacy of the State are to be held on the third Thursday of January, April, July and October, in the city of Trenton, and at such other places and dates as may be required. The board is to grant certificates of registration to all persons whom it shall judge, on examination, to be properly qualified to practice pharmacy. It is given the additional power to suspend and revoke the registration of any person addicted to chronic and persistent inebriety, or of any person convicted of a crime involving moral turpitude. Applicants for registration must now be not less than 21 years of age, and pay to the secretary of the board a fee of $10, those failing to pass examination being given the right to try a second time at any time within one year thereafter. It is also now provided that the board of pharmacy shall grant an assistant's certificate to any person not less than 18 years of age, who shall have had three years' practical experience in pharmacies where prescriptions have been usually compounded, and shall have passed a satisfactory examination before said board of pharmacy; which certificate shall entitle such person to all the privileges of a registered pharmacist during the temporary absence of his employer, and shall not entitle such assistant to engage in business on his own account or as manager to conduct a pharmacy. Every person applying for an assistant's certificate shall pay to the secretary of the board of pharmacy a fee of $5 before examination, and in case of failure to pass a satisfactory examination the applicant shall be granted a second examination without the payment of another fee at any time within one year from his first examination. Every registered pharmacist and every registered assistant who desires to continue the practice of his profession shall once in three years during the time he shall continue such practice, on such date as the board of pharmacy shall prescribe, pay to the secretary of the board a registration renewal fee of fifty cents, in return for which he shall receive a renewal of his registration. A penalty is prescribed for failure to register and for dispensing adulterated drugs, as well as for procuring or attempting to procure registration fradulently or by false representation. The exception made in favor of the making or vending of patent or proprietary medicines, and of the sale of simple domestic remedies by retail dealers in rural districts, is limited to such as are non-poisonous and it is no longer required that the retail dealer in rural districts be one-half mile or more remote from a registered pharmacist.

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 12 to 14, 2 cases.
Arkansas: Jacksonport, March 17, 4 cases.
Florida: Pensacola, March 18, 1 case.
Louisiana: New Orleans, March 7 to 14, 116 cases, 10 deaths; Shreeveport, February 26 to March 20, 16 cases, 1 death.
Michigan: Bay City, Detroit, Imlay Township, Ionia, Marine City, Saginaw, March 7 to 14, smallpox reported.
Tennesse: Memphis, March 21, 2 cases.
Texas: Center, March 13, 1 case: Orange, March 18, 1 case.

SMALLPOY—FOREIGN.

Bombay, February 11 to 18, 27 deaths.
Brussels, February 22 to 29, 1 death.
Cairo, February 5 to 18, 5 deaths.
Cardiff, March 1 to 7, 2 cases.
Constantinople, October 1 to 31, 5 deaths.
Genoa, March 1 to 7, 2 cases.
London, February 22 to March 7, 2 deaths.
Madras, February 8 to 14, 1 death.
Moscow, February 15 to 22, 1 death.
Prague, February 22 to 29, 4 cases.
Tuxpan, February 22 to 29, 1 death.
Warsaw, February 8 to 22, 6 deaths.

CHOLERA—FOREIGN.

Calcutta, February 1 to 8, 66 deaths.

YELLOW FEVER—FOREIGN.

Santiago de Cuba, March 1 to 7, 6 deaths.

ASSOCIATION NEWS.

Provisional Program for the Atlanta Meeting of the Ophthalmological Section of the AMERICAN MEDICAL ASSOCIATION. LUCIEN HOWE, Chairman, FRANK ALLPORT, Secretary.

Address of Chairman, LUCIEN HOWE.

Report of Special Committee on Detachment of the Retina, its Etiology and Treatment, R. E. RANDOLPH, Chairman. Histologic Changes in Retinal Detachment.

Papers from F. C. HOTZ, E. E. HOLT, F. E. WEEKS, T. E. MURRELL, subjects unannounced.

JOHN F. FULTON, Operative Treatment of Detached Retina.

L. F. LOVE, Report of a Case of Detached Retina Occurring in Chronic Bright's Disease.

W. T. MONTGOMERY, Electrolysis in the Treatment of Detached Retina.

E. OLIVER BELT, Consanguineous Marriages as a Cause of Retinitis Pigmentosa.

DUDLEY S. REYNOLDS, The Nomenclature of Conjunctivitis.

F. T. SMITH, The Use of Caustics in Epithelioma of the Lids.

A. E. PRINCE, The Treatment of Ectropion of the Lower Lid.

E. J. BERNSTEIN, Sub-conjunctival Injections.

F. C. HOTZ, A Case of Ectropion of the Upper and Lower Eye-lids.

LOUIS J. LAUTENBACH, Gonorrheal Conjunctivitis, its Treatment.

P. D. KAYSER, Grafting in Blepharoplastics.

Report of Special Committee on Optic Nerve Atrophy of Obscure Origin. H. V. WÜRDEMANN, Chairman, Cases of Optic Nerve Atrophy of Obscure Origin occurring in General Diseases.

GEO. E. DE SCHWEINITZ, Obscure Cases of Optic Nerve Atrophy of Toxemic Origin.

HARRY FRIEDENWALD, Obscure Cases of Optic Nerve Atrophy of Peripheral Origin.

C. W. KOLLOCK, Obscure Cases of Optic Nerve Atrophy Occurring in Cerebral Diseases.

G. DUNBAR ROY, Obscure Cases of Optic Nerve Atrophy Occurring in Spinal Diseases.

H. BURT ELLIS, Atrophy of Optic Nerve Probably due to Quinin.

B. ALEXANDER RANDALL, The Differential Diagnosis between Simple Glaucoma and Optic Nerve Atrophy.

S. D. RISLEY, Secondary Glaucoma.

LEARTUS CONNOR, Causation and Management of Glaucoma.

GEO. DE SCHWEINITZ, Concerning Central Scotoma, with Particular Relation to the Papillo-macular Bundle and the Cortical Visual Centers.

R. F. LE MOND, The Relationship between Diseases of the Eye and Brain.

O. J. SHORT, Treatment of Optic Nerve Atrophy by Mercurial Inunctions in Conjunction with the Hot Baths of the Hot Springs of Arkansas.

EDWARD JACKSON, The Value of Homatropin in the Diagnosis of Ametropia.

G. C. SAVAGE, Some Interesting Points Pertaining to Refraction.

CASEY A. WOOD, The Field of Fixation in its Relation to Heterophoria.

HENRY WILSON RING, Three Cases of Monocular Vertical Nystagmus.

HERBERT HARLAN, A Contribution to the Question of the Removal of the Lens in High Myopia.

HERBERT HARLAN and HIRAM WOODS, Results of an Examination of the Vision of the Children of the Public Schools of Baltimore.

H. GRADLE, Slight Chorio-retinal Lesions as a Cause of Asthenopia and Reduced Sight.

C. M. HOBBY, The Coördination and Incoördination of the Eye Muscles.

C. P. Pinckard, An Ophthalmometric Puzzle.

J. ELLIOTT COLBURN, A Case of Intra-sclerotic Cyst, and a Case of Cystic Tumor of the Orbit.

GEO. F. FISKE, Report of Intra-ocular Malignant Tumors.

S. C. AYERS, A Case of Chloroma.

A. R. BAKER, Dermoid Tumors of the Cornea.

ARTHUR G. HOBBS, The Application of the Galvano-cautery in Pterygium Operations.

C. D. WESCOTT, Keloid of the Cornea.

LYMAN WARE, Report of 100 Cataract Cases with a Special Device for Secondary Cataract.

A. J. ERWIN, A New Needle for Secondary Cataract.

ADELINE E. PORTMAN, Idiopathic Choroiditis.

HIRAM WOODS, Report of Some Cases of Choroiditis in Young Adults.

H. MOULTON, Keratitis Interstitialis Annularis.

H. BURT ELLIS, Bilateral Exophthalmus.

J. HERBERT CLAIBORNE, Experiments upon Rabbits, made with a View to Establishing a Stump for the Better Fitting of Artificial Eyes.

H. B. YOUNG, A Further Clinical Note on the Use of Pyoktanin.

March 15, 1896.

SOCIETY PROCEEDINGS

Chicago Ophthalmological and Otological Society.

Regular Meeting held at the Chicago Athletic Association, Feb. 11, 1896.

DR. GRADLE in the Chair.

There were twenty-two members in attendance. The minutes of the last meeting were read and approved.

The Secretary read the application of DR. J. B. LORING, which was referred to the Committee on Membership.

DR. GRADLE read a paper entitled

THE EFFICIENCY OF SALICYLATES IN THERAPEUTIC PRACTICE.

The speaker explained that salicylates have been used in ophthalmic practice and recommended in the books for nearly twenty years, but that very few authors state definitely what and how much can be expected of the drug in different diseases. In the mild forms of episcleritis the salicylate of sodium has a prompt effect in checking the disease. In corneal diseases he has found it useless except in one form, keratitis, presumably dependent upon rheumatism or gout. This keratitis is characterized by deep striations or discrete spots of infiltration in the cornea, with a more or less diffuse haze. It has an indefinite course, but yields within a few days to the action of salicylate of sodium. In iritis the speaker has never observed specific effect. In eight instances patients with rheumatic manifestations and iritis were benefited as far as the rheumatism was concerned, but the salicylic acid did not prevent the iritis from taking its usual course. He claims, however, that this drug will often mitigate the pain and in some instances apparently shorten the disease, but that this effect can not be predicted. It requires doses of at least one gram, repeated four or six times a day, in order to obtain the benefit of salicylates, and more if the patient can stand it. In cyclitis the most striking results were seen. It has no effect upon an acute cyclitis, but when the disease has passed the acute stage and then has an indefinite duration, or exacerbations and relapses, a very prompt checking effect was found in the majority of instances. This pertained to cyclitis following retinal detachment, cyclitis of traumatic origin, and in one instance a sympathetic form of disease. Sometimes a marked benefit was found in twenty-four to forty-eight hours. In no other disease of the eye could any decisive results be obtained by the use of salicylate of sodium.

DISCUSSION.

DR. HOLMES had used salicylates only for the relief of pain. For this purpose he had found them of great help, but had not had very satisfactory results from salicylates as a specific.

DR. COLBURN had used salicylates at times, but finds that antipyrin and similar analgesics accomplish the same results, and as they were less irritating to the patient's stomach he considered them better. He used all these drugs for the relief of pain only, and not as specifics.

DR. HOTZ had first used the salicylates systematically in 1878 and reported his results in the *Chicago Medical Journal and Examiner* in 1879, about the time that Chisholm made his report. He disagreed with the former speakers in regard to the value of the salicylates as a specific. In cases of rheumatic iritis the relief from pain and other symptoms was very marked, following the administration of the salicylates in large doses. Referring to the benefits Dr. Gradle had derived from them in cases of cyclitis, but not in iritis, he considered that all severe cases of iritis were complicated with cyclitis, and that Dr. Gradle's experience was only proof of the value of salicylates in iritis. He generally gave the salicylate of sodium in 5 grain doses, repeated at very short intervals, instead of 15 grain doses every two hours or so.

DR. COLEMAN'S experience corresponded with Dr. Gradle's as far as iritis is concerned. He had found the drug of but

little value, although he had used 15 grain doses very persistently. He now uses 1-10 grain doses of calomel, repeated every hour until relief is experienced. A recent case of herpes zoster ophthalmicus, which had suffered greatly from severe pain for ten days, was relieved by salicylate of soda, when all other drugs had failed except morphin.

DR. HALE asked if Dr. Gradle had ever used oil of wintergreen instead of salicylates. He had found the oil of wintergreen just as efficacious, and it did not disturb the patient's stomach nearly as much as the salicylate of soda.

DR. PIERCE also spoke of the use of wintergreen in his practice as being very satisfactory. He considered it important to get a reliable preparation of the drug, and he uses Merck's oil of wintergreen entirely.

DR. WÜRDEMANN had but little use for the salicylates. In iritis he had always used mercury with satisfactory results.

DR. HAWLEY used to use salicylate of soda, but found it very irritating. He now prefers salicin and gives very large doses, 20 grains every hour, and sometimes as high as 30 grains every hour. He finds salicin is less irritating, and has never had any unpleasant effects from the use of such large doses.

DR. OAKS uses the salicylic acid prepared from the oil of wintergreen, and not the one used synthetically. He finds the results are better and the preparation less irritating than the synthetic form.

DR. GRADLE (in closing) said that he prefers the salicylate of soda in the solid form: that in the form of 5 grain tablets it was less irritating than in solution. He finds it is absolutely useless to use doses smaller than 15 grains, repeated every two or three hours.

DR. COLBURN reported the case of a boy of 15, who six months before the doctor saw him, noticed a small cyst the size of a pea between the cornea and the inner canthus which rapidly grew larger. When seen by the doctor the cyst had spread until it occupied part of the cornea, and it could be plainly seen that the cyst had invaded the corneal walls, and that both the front and back walls of the cyst were formed by corneal tissue, the cornea still remaining transparent. The tension of the cyst was about that of the eye. Photographs of the cyst were shown. The conjunctiva was opened over the cyst, and it was found the outer wall was composed of sclerotic and corneal tissue. A small puncture made through this wall allowed quite a little thin, transparent fluid to escape, and a larger incision showed the inner wall of the cyst to be also composed of scleral and corneal tissue. Nothing was found in the cyst with the exception of this clear fluid. It healed rapidly and the two walls united with obliteration of the sac.

In looking up the literature Dr. Colburn was unable to find any reference to similar cysts. He finds, however, two cases, in one of which a cysticerus was found in the cyst, and in the other case a piece of steel.

As far as the etiology of this case is concerned, the only previous history was an injury to the eye in childhood from a dog bite, the scar of which is plainly visible.

DR. WÜRDEMANN referred to one case of echinococcus cyst of the sclera, which will be reported in the new System of Ophthalmology of Norris and Oliver.

DR. COLEMAN spoke of the question of finding the axis for weak cylinders, and referred to the method recommended by Price about a year ago of using quite strong cylinders in determining this axis, the cylinder used being too strong to give good vision, but slight deviations from the proper axis making the vision still worse. In this way he had succeeded in finding the axis for the weak cylinder, which he could not do in any other manner.

On motion, the Society adjourned.

C. P. PINCKARD, Secretary,
103 State Street.

SOCIETY NEWS.

American Academy of Medicine. Preliminary "press notice" of the twenty-first annual session at Atlanta, Ga.: The twenty-first annual session of the American Academy of Medicine will be held at the Hotel Aragon, Atlanta, Ga., Saturday, May 2, and Monday, May 4, 1896. The proprietors of the Aragon have made special rates for those who attend the meeting; it is expected that the concession for one and one-third fare for the round trip granted to the AMERICAN MEDICAL ASSOCIATION will be available in time for those who desire to attend the opening session; a pleasant excursion can be arranged to start from Philadelphia and visit Asheville, N. C., the "Land of the Sky," and Chattanooga, *en route* to Atlanta, if a sufficient number club together for that purpose; or special Pullman cars can be chartered for the exclusive use of those who attend the meeting for the direct route to Atlanta from any rendezvous selected. The Secretary invites correspondence on any of these topics, and also from those who desire a copy of the completed program, when it is issued; full information will be promptly given on application.

Provisional Program: The Academy will meet in executive session with closed doors on Saturday, May 2, at 10 A.M. The open session for the reading of papers will begin about 11 A.M. The reunion session and annual dinner will be held on Saturday evening. An executive session will be held on Monday morning, after which the special discussion on "Methods of Medical Education" will be the order of the day. The Association of American Medical Colleges, and the Confederation of the State Boards of Medical Examiners and Licensers, have accepted the invitation of the Council and will participate in this discussion. The time-table for the day and the time for adjournment will be determined by the circumstances.

Papers promised: (Note. No attempt is made to arrange the papers in the order in which they are to be read.) 1. "Laboratories and Hospital work," the President's Address, Henry M. Hurd, Baltimore, Md. 2. "Colonies for Epileptics," Frederick Peterson, New York City. 3. "Insanity in the South," J. T. Searcy, Tuscaloosa, Ala. 4. "Tuberculosis in Public Institutions," J. W. Babcock, Columbia, S. C. 5. "Vivisection," George M. Gould, Philadelphia. 6. Subject not yet given. Woods Hutchinson, Iowa City, Iowa. 7. "The Confusion of Pharmacy Relating to the Theory and Practice of Medicine." Elmer Lee, Chicago. 8. "A National Board to License for the Practice of Medicine," Henry Leffmann, Philadelphia. 9. Report of the Committee to Abstract the Laws Regulating the Practice of Medicine and to Suggest a Model Law, Perry H. Millard, Chairman, St. Paul, Minn. 10. "Homicide," Paul Bartholow, Philadelphia. 11. "The Sociologic and Scientific Attitude of the Medical Profession," W. J. K. Kline, Greensburg, Pa. 12. "A Study of Some of the Distinguishing Features of the Homo Medicus," Charles McIntire, Easton, Pa.

Discussion on "Methods of Medical Teaching:" This discussion will be opened by a series of ten-minute papers, and in the discussion to follow, each speaker will be limited to five minutes. The papers are as follows: 13. "The Preparatory Mental Discipline for the Medical Student," F. H. Gerrish, Portland, Me. 14. "The Lecture and its Uses," Charles B. Penrose, Philadelphia. 15. "Text-book Recitation and its Advantages," De Lancey Rochester, Buffalo. 16. "Laboratory Methods," V. C. Vaughan, Ann Arbor, Mich. 17. "Clinical Teaching for Graduates in Diseases of Children," J. Madison Taylor, Philadelphia. 18. "The Seminary Method," Bayard Holmes, Chicago. 19. "Examinations," E. L. Holmes, Chicago. 20. "Students' Medical Societies," Roswell Park, Buffalo. 21. "State Examination," J. McPherson Scott (of the Maryland Board of Examiners), Hagerstown, Md. 22.

"The Best Method to Teach Anatomy," John B. Roberts, Philadelphia. 23. "The Best Method to Teach Physiology," Charles D. Smith, Portland, Me. 24. "The Best Method to Teach 'Practice,'" J. C. Wilson, Philadelphia. 25. "The Best Method to Teach Surgery," J. S. Wight, Brooklyn. 26. "The Best Method to Teach Obstetrics," J. C. Edgar, New York City. 27. "The Best Method to Teach State Medicine," George H. Rohé, Catonsville, Md. Correspondence is pending about some additional papers; if any more are promised, the titles will appear in the completed program.

CHARLES MCINTIRE, Secretary,
Easton, Pa.

NECROLOGY.

DORRANCE K. MANDEVILLE, M.D., who was formerly a surgeon in the United States Marine-Hospital Service, died at Brooklyn on the 9th inst., aged 68 years. At the time of his connection with the Marine-Hospital Service he was a resident of Mobile, Ala., whence he removed in 1866 to reside at Clinton, N. Y., he having been a graduate in arts at Hamilton College in 1849. His medical degree was obtained from the College of Physicians and Surgeons, New York. He removed from Clinton to Brooklyn in 1876. He was an ex-interne of Bellevue Hospital.

NELSON FANNING, M.D., died at his home in Catskill, N.Y., February 27. He was one of the oldest physicians in the United States. He was graduated from the now extinct Berkshire Medical College in 1830, having been in active practice until within a few days of his 88th birthday. He had been continuously a medical practitioner for sixty-five years, and was the dean of the faculty of Greene County. In the war of the rebellion he served nearly two years as surgeon of the 134th New York Volunteers.

JOHN S. DANIELS, M.D., a well-known surgeon in New Hampshire, died March 6, at Rochester, N. H. He was born in Barrington, that State, and educated at the Long Island Medical College in the class of 1875.

GEORGE BADGER COGSWELL, M.D., of North Easton, Mass., died March 6, in the sixty-third year of his age. He was a native of Bradford, Mass., educated at Wilmington Academy and Dartmouth College, was A. M. of that institution in 1850, and M.D. of its medical department in 1857.

JOHN HOWARD RIPLEY, M.D., formerly President of the Faculty of the St. Francis Hospital, New York city, was the subject of the following tribute of respect by his fellows of the Medical Board of that institution:

WHEREAS, It becomes our painful duty to announce the death of Dr. John Howard Ripley, attending physician to St. Francis Hospital, and late President of its Medical Board; therefore, be it

Resolved, That the Medical Board desires to place on record its due appreciation of his long and valuable services to this institution, faithfully and cheerfully rendered for nearly a quarter of a century; and be it

Resolved, That from his first connection with this hospital he was an ever-willing servant for its best interests, an ardent promoter of its highest aims and an active participant in all its charitable benefactions; and be it

Resolved, That the remembrance of his manly disposition, his frank manner, his energetic spirit and scholarly attainments will ever serve as a cherished lesson for the well-ordered life of a dutiful worker, an indefatigable investigator and a model physician.

THOMAS C. BRADFORD, M.D., died March 13, after an illness of two weeks. Dr. Bradford was born in Cincinnati in 1835 and he graduated from the Bellevue Hospital Medical College, New York, in 1864, since which time he has practiced his profession in Cincinnati.

J. W. IRELAND, M.D., died on the evening of the 15th, at his home in Lewisport, Ky. He was attending to his practice all of the day before his death, which was caused by some heart lesion. He was born at Eminence fifty-eight years ago. Served as Surgeon in the Confederate army under Col. Yiltner. After the war he moved to Louisville and was Superintendent of the City Hospital for four years, later removing to Lewisport, where he has continued to practice up to the time of his death.

MISCELLANY.

Missouri Law to Prevent Blindness.—A law was passed in Missouri in 1895 providing, under penalty, that should one or both lids of either eye or both eyes of an infant become red or swollen, or should there be any discharge from either eye or from both eyes, at any time within three weeks after its birth, it shall be the duty of the midwife, nurse or other person having charge of said infant, at once, unless for good cause shown, to report the condition of said eyes to a legally qualified practitioner of medicine.

Missouri Cigarette Local Option Law.—Any city, town or village in Missouri existing by virtue of the present general law, or by any local or special law, it was enacted by the legislature in 1895, may, by ordinance or act, prohibit the sale, within its corporate limits, of cigarettes or cigarette wrappers to minors any charter provision to the contrary notwithstanding; and such city, town or village may provide punishment or fines for any person, persons or corporation violating any ordinance authorized by this enactment.

Should Name Disease.—Where an action was brought to recover damages for personal injuries caused by the negligence of the party sued in delivering to the plaintiff, to be washed, clothing contaminated with a contagious venereal disease, the latter being ignorant of its condition, the appellate division of the supreme court of New York holds, Hatterman vs. Siemann, decided Feb. 7, 1896, that all that was still needed to state a good case for special damages was to give more specifically the name, nature, character, or other description of the disease alleged to have thus been contracted.

Wafers: Light and Red.—One good turn, etc. Flossie (who had overheard conversation between her father's groom and the family doctor): "Ain't you goin' to buy our horse?" Doctor: "No, my dear, I want a larger one." Flossie (reproachingly): "We always take any size baby you bring."

The Art of War. Pat: "Phwat does they use grape-shot fur?" Mike: "Sure, its to give the inimy appendicitis."—*Puck.*

The Formation of Spores on Bacteria.—Microscopic color tests show that the spores develop out of a material which is discernible by its resistance to the coloring matter, thus showing its resemblance to the mature spore. It first shows as small grains on the bacteria protoplasm, which grow together into a spore. This resistance tends to prove that the spores not only possess some peculiarly tough tissue, but that there is also some chemic constituent that is responsible for it.—*Fortschritte der Med.*, 1895, Nos. 20, 21.

Changes in the Portal Vein in Biliary Lithiasis.—Galliard reviews in *Méd. Mod.*, 1895, No. 93, the different cases on record of inflammations, thrombosis, compression and fistulas of the portal vein consequent on the formation of biliary calculi. He recommends in acute disorders of the vein, after thorough cleansing of the intestines and bile duct with calomel, salol, salicyl or naphthol, that an operation be attempted which is contraindicated in chronic cases. This makes it all the more important to treat the trouble in time.—*Centralblatt f. Chir.*, February 22.

The Thyreo-proteids.—Morin suggests that the thyreo-proteids discovered by Hotkin, might be used to advantage in the infective diseases, like tuberculosis. The atrophy of the thyroid glands usually present in phthisis is his ground for this sugges-

tion and he cites cases of enlarged thyroid glands in which the disease remained stationary. He has experimented with it himself in many cases, but not sufficiently to announce an authoritative opinion, and he urges others to continue experimenting with it on animals immune against tuberculosis, goats, horses, etc., and also on persons, after isolating the antitoxin. —*Centralblatt f. Chir.*, February 15.

New Formation of Nerve-cells in the Brain of a Monkey after Extirpation of the Occipital Lobes.—Vitzou announces that he has accidentally found that the assumption that there can be no regeneration of the central nerve fibers or cells, is incorrect. In February, 1893, he removed both of the postero-inferior portions of the hemispheres in a monkey. In four months the first total blindness began to pass away, and two years and two months later, the animal could see enough to avoid obstacles. At this time the brain was opened again, when Vitzou was astonished to find that the space occupied formerly by the extirpated lobes was filled with a newly formed substance, which tests proved to be nerve fibers and cells, although not so compact as in the normal brain. He believes that the improvement in the sight was due to this regeneration of the nerve fibers and cells.—*Compt. Rend.*, Sept. 16, 1895.

Tuberculous Peritonitis.—Mazzoni reported thirty-five cases of this disease treated with laparotomy, followed by recovery in thirty-three. Two cases required a second operation in eight to ten months. He merely opens the abdominal cavity and empties it of fluid. The second operation was of special interest on account of what was found in the abdomen: The tubercles had almost disappeared, around those that were left there was an inflammatory exudation, and inside there was cystic degeneration. This report was made before the Congress of Surgery at Rome, last fall, and led to a lively discussion whether all forms of peritoneal tuberculosis indicated an operation, whether the simple opening of the abdomen is enough, or whether in the peritoneum a certain amount of irritation should be produced. The members agreed to take note of all cases and compare experiences.—*Centralblatt für Chir.*, February 1.

The Relations Between the Cerebrum and the Labyrinth.—Ewald and Hyde have been investigating the after-effects of disturbances in the labyrinth in different animals, which tend to change into substituting phenomena, more or less, and the higher the animal in the scale of nature, the greater this tendency. They removed the cerebrum from some frogs whose labyrinths had already been removed, but found this had a very slight influence on the substituting process, which is insignificant in these animals. Experiments on doves showed that the removal of the cerebrum had a decided influence in preventing it. The scientists consider their experiments conclusive that the cerebrum plays a most important part in these phenomena, and expect to prove it beyond question by the experiments on dogs they are now undertaking.—*Centralblatt f. Chir.*, February 8.

Ozena.—Schestakow's article on this subject treats of the pathology and therapeutics of ozena, with observations of twenty-eight cases treated. He believes that it is a disease *sui generis*, and has nothing in common with other nasal affections, not even with diseases of the accessory nasal cavities. The characteristic rudimentary condition of the nasal muscles is the consequence of a defective development of the bony frame. Where there is a tendency to it, measles is most frequently the starting point. A constant and quite important symptom is the absence of adenoid growths and the small size of the tonsils. None of the theories proposed in regard to its etiology are tenable except the idea of a constitutional predisposition, consequently the author states that general treatment is most effective, and local only palliative.—*Centralblatt f. Chir.*, February 15.

The Vermont "Magnetic Healer."—A blacksmith named Bradley Newell, of Jacksonville, Vt., has become popularly known in a large section of New England as a magnetic healer. In one day he treated nearly one hundred patients between two and six o'clock, and the patients beginning to gather as early as seven o'clock. He could not be consulted until ten o'clock, and at that time the hotel looked like a hospital. Invalids arrive by every train; some had to be carried into the hotel, while many used crutches. His alleged cures are attracting great attention. He admits that he has not made many immediate cures, but thinks the patients will find relief later. He has treated over three hundred persons in two days, most of them paying two dollars each. Several of the patients have come three hundred miles or more to see him.

Effects of the Cathode Ray upon the Bacillus of Diphtheria. The bacteriologists of the Health Department of New York city have been experimenting as to the effect of X-rays upon the bacilli of diphtheria and tuberculosis. The experiments were made on Friday, March 20, by Dr. Biggs and Dr. Martin. Saturday, however, Dr. Beebe discovered that the results of the experiments were negative. It was expected that as the bacilli of the diseases are readily killed by exposure to intense light that the X-rays might have a similar effect, but beyond the fact that the bacilli thrived in the beef broth in which they were, no other effect was observed. This seems to be in line with the recent experiments of Nicola Tesla, who found that the X-rays had a soothing and even stimulating effect when directed upon the human brain.

A Two-Headed Female Child.—Mr. James Payn, of London, writes thus to the *Independent* regarding a French monstrosity: "It is said that 'two heads are better than one'; in that case the French lady who has presented her husband with a female infant thus endowed, but having only one body, is to be congratulated. It will be much less expensive than twins: the priest, I see, has been compelled to perform a double ceremony of baptism, but that is not charged for; the only extra cost will be in caps and bonnets, and hair cutting. If the young lady marries, or if she does not marry, and takes the veil, she will in both cases, however, require two of them. It is curious that the birth of freaks is a thing to be welcomed or deprecated, according to the position of the parents. In many families a girl with two heads would be considered a downright misfortune. Oriana Adela (for she must have two names if she has been christened in duplicate) would be kept out of sight as much as possible, whereas Sarah Jane would be made a public and extremely profitable exhibition."

Proposed Repeal of Laws Requiring Anti-Alcoholic Instruction in the New York Public Schools. The repeal of laws relative to the teaching in the public schools on the effects of alcohol and narcotics is being actively canvassed before the New York Legislature. At a hearing before the Education Committee, the German athletic societies were represented by Prof. Max Grossman, who opposed the existing law and ridiculed the text-books which have been forced upon the public schools as proper modes of teaching the dangers of the use of alcohol and narcotics.

The next speaker was the Rev. Dr. T. Lewis Bannister, of New Hartford, Oneida County, who favored the repeal of the Ainsworth law. He held it to be not only inadequate to prevent the use of tobacco and stimulants by children, but also believed that the books used endangered the health and purity of the home.

Hamaide's Formol Inhaler.—This new inhaler consists of two flasks, one holding a liter, and the other 250 c. c. Carbonic acid is generated in the first, by means of bicarbonate of soda and tartaric acid, and passes into the other flask which contains a solution of formol, producing vapors for which it is the vehicle. The 40 per cent. concentrated solution of formol is

used. One hundred grams of hot water are poured into the small flask, to which the formol is added in quantities from 160 to 800 drops. This produces a solution of 2 to 10 per cent., bearing in mind that thirty-two drops of the 40 per cent. solution represent 1 gram of this solution, or 0.40 grams of formol. The vapors of formol have been found very effective in pulmonary tuberculosis, accompanied by bronchial dilatation, or pulmonary gangrene. They subdue the coughing spells and diminish rapidly and notably the quantity and the fetid character of the expectorations. The odor of the formol can be disguised with 40 to 50 drops of Austrian pine.—*Bulletin* of the Académie de Médecine, February 11.

Menthol Snuff. *Public Health* states that Messrs. Burroughs, Wellcome & Co., of London, have issued a new preparation which is likely to be most useful. It is called menthol snuff, but contains not only menthol, but ammonium chlorid, camphor, and one-sixth per cent. of cocain, made up with lycopodium. The local anesthetic and antiseptic action of this remedy is marked, and the form in which it is issued renders it convenient and attractive in use.

A Prospective Fortune for Continuous Medical Services. The Nawabs and Rajahs of India are at times very open-handed in their dealings with their European medical attendants. "Several cases are, indeed, on record where large sums in the form of fees have thus been paid to the latter. But the most phenomenal instance of the kind which has come under our notice is that which is reported in the *Deccan Budget*. The Nawab Fakr-ul-mulk has, we are told, made a will leaving £600,000, or $3,000,000 to his medical man. This immense sum will come to the latter on the death of his patient."

The Hypnotic Action of Scopolamin in the Insane. The *New York Medical Journal* contains an abstract of an article on this subject which appeared in the *Medical Week*. Two Russian physicians, Drs. Olterogge and Jurman, says the writer, made a series of experiments with the hydrobromid of scopolamin, and found that the drug possessed a true value as a hypnotic in the treatment of the insane. Administered hypodermically, in doses varying from 0.003 to 0.015 of a grain, it induced in the majority of the subjects a sleep which lasted from three to ten hours. On awakening, the patients appeared much calmer than before the administration of the drug. This effect was especially pronounced in maniacs, but it was not so marked in acute lypemania. In chronic insanity its hypnotic action was also manifest. In delirium tremens, however, it tended only to weaken the patient, and had no hypnotic action whatever.

Anatomy and Treatment of Genu Valgum. A 16-year-old patient treated for this trouble died from an attack of diphtheria (in spite of the serum treatment), and the anatomy of the knee was carefully studied. The joint was decalcified and a frontal section made. The main curvature was immediately over the condyli femoris. The structure of the spongiosa was exactly as described by Wolff. The epiphysial cartilage was remarkably broad and very irregularly shaped. The spreading was principally in the center of proliferation, where the cartilage cells were much enlarged and irregularly placed. The periosteum had healed at the point of the operation, fourteen days before, and the faces of the bone were already quite firmly united. Geissler, who writes this to the *Berl. kl. Woch.*, 1895, No. 48, proceeds to describe the supra-condylar osteotomy practiced in Bergmann's clinic, as follows: The flesh is opened as usual, the parts of the bone involved are completely exposed; the chisel, which is not too wide, is directed backward, obliquely to the incision so as not to open the joint. A preliminary wedge cut out of the corticalis ensures a firmer hold for the chisel. The exterior corticalis is not cut but pulled apart. The plaster cast is applied as soon as the wound is sewed up. The femur must not be set in the cast if it is twisted, and a club foot must be corrected. Out of the fifty-six operations made between 1883-92, only six required the tibia operated upon. Thirty-two were reported later as permanently successful; one only had a stiff joint but six still complain of pain after exertion. The advantage of this method is mainly that the limb can be used in five or six weeks after the operation.

Study of Osteomyelitis with Experiments to Immunize. A detailed report of sixty-three cases of this disease treated in the Moabit Hospital, at Berlin, is published in the *Deut. Ztschr. f. Chir.*, vol. XLII, p. 135. It shows again the fact that it seems to be a disease peculiar to youth, as the patients were under 21 years of age. Three cases were accompanied by periostitis albuminosa, and numerous staphylococci were found in the exudations after lancing, thus showing that there is really no difference between this form and the suppurative. Nineteeen cases followed an accident and one case a severe wetting. Other cases were preceded by angina, typhoid fever, scarlet fever, a suppurating wound, an ulcus cruris and a carious tooth, one of each. The rest of the cases were what is called primary. Most were treated by opening and draining the abscesses, and the few that were scraped required amputation afterward. The pus was examined in twenty-six cases, and streptococci and staphylococci were found together in seven, diplococci in one, but staphylococci were in all except two, so that this disease can be considered a staphylococcus pyemia of the period of development. Experiments on forty young rabbits with injections of staphylococcus bouillon cultures in the auricular veins, produced suppurative inflammations of the marrow and joints, all containing staphylococci. Injections of streptococci also produced typical esteomyelitis, but staphylococci introduced into the stomach were innocuous. Other animals were immunized with serum from patients, and resisted all attempts to produce the disease, although the data are as yet insufficient to accept this as an absolute certainty.

Accidental Death of a Physician. The *Press and Circular*, January 29, gives an account of an unusual accidental death of a surgeon and general practitioner of good position. The lethal drug was probably aconite. "The death of a medical practitioner, Mr. John Robinson, of Bridlington Quay, Yorkshire, last week, under peculiar circumstances has been largely commented on in the local press. Briefly, the facts are as follows: Mr. Robinson had under his care a young man suffering from some slight ailment for whom he prescribed a bottle of medicine. After one dose, however, owing to the agonizing effects caused, the patient refused to take any more of the mixture. This surprised his medical attendant, but it led to the latter taking the bottle away and promising to send another mixture of less strength than the first. However, the same effects were produced in the patient after a single dose of the second medicine, and again he declined to take any more. This having been brought under the notice of Mr. Robinson, he visited the patient, and stated that the prescription from which the medicine had been prepared was one that he was accustomed to use every day, and that he himself would not object to swallowing the whole contents of the bottle at once. Suiting the action to his word, he called for some water and proceeded to pour out a large dose of the mixture, which he promptly swallowed. Soon afterward he began to feel ill. He accordingly proceeded home at once, and sent for two *confrères*. Everything that was possible was done for him; but the symptoms of poisoning rapidly developed, and death took place two hours later. His belief, at first, was that the medicine had contained a strong dose of tincture of ginger, but before he died he expressed the opinion that aconite had somehow been dispensed by mistake in the mixture. Mr. Robinson had been forty years in practice in Bridlington, and had reached the age of 64."

Right of Way to Physicians. An ordinance has been passed in

Chicago granting to physicians' and hospital ambulances the right of way across processions, bridges, etc.

Be it enacted by the City Council of the City of Chicago:

SECTION 1. All ambulances and vehicles belonging to the Health Department, and all ambulances or vehicles belonging to incorporated hospitals recognized by the Health Department as being regular hospitals in the City of Chicago, shall have the right of way in the streets of said city, as against all processions, persons, vehicles or animals, when conveying any patient or injured person to any hospital in the city, or when proceeding to the scene of any accident by which any person or persons have been injured: and any person refusing to yield the right of way, where it is possible, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not exceeding twenty-five ($25) dollars for each and every such offense. The Superintendent of Police is hereby required to rigidly enforce the provisions of this ordinance. Physicians having a permit, and who shall wear a suitable badge, to be procured from the City Clerk, shall also have a like right of way for themselves and their vehicles in the streets, and shall be allowed, as soon as possible, to cross processions and other public gatherings and bridges, when answering calls for their professional services. The Mayor and City Clerk are hereby authorized to issue, upon written application therefor, a proper permit to any duly registered physician or surgeon, residing or practicing in the City of Chicago, which permit shall not be transferable.

SECTION 2. The Mayor and City Clerk, before issuing any such permit or badge, shall obtain from the State Board of Health a certified copy of all regular practicing physicians, licensed by such Board of Health, and residing or practicing in the City of Chicago, and such permit and badge as above referred to shall only be issued to such physician or surgeon who shall be certified by the State Board of Health as being a regular practicing physician or surgeon.

SECTION 3. This ordinance shall be in force and effect from and after its passage.

Concentrated Foods.—During the past year the agitation in military circles about an emergency ration has extended to the daily press, and from the tenor of many of the articles that have been published it is evident that a misconception of the character of the ration sought for has very generally been entertained. The idea has prevailed that some condensation or concentration of nutritive principles is desired which will enable the soldier to carry in a small bulk enough to support him for a number of days; and the editorial columns of a *medical journal* even have contributed to this misapprehension by discussing the evil effects that would follow the want of the natural distension of the stomach resulting from the continued use of such a concentrated food. Perhaps, also, the advertisements of the meat juices and extracts which are represented to contain in a few teaspoonfuls the nutritive elements of so many pounds in beef have had their influence in fostering the mistaken idea. The ideal emergency ration is really a combination of the proper quantities of the proteids, fats and carbohydrates in a water-free and light weight condition, but capable of again taking up their water during some simple process of cooking which can be done by the soldier on a campaign, with a palatable, easily digested and nutritious diet as a result. The following account of the explosion of "dear little Gustavus Adolphus" by Stephen Leacock in *Truth* may help to explode the unscientific idea of concentrated foods:

"The smiling family were gathered round the hospitable board. The table was plenteously laid with a soup plate in front of each beaming child, a bucket of hot water before the radiant mother, and at the head of the board the Christmas dinner of the happy home, warmly covered by a thimble and resting on a poker chip. The expectant whispers of the little ones were hushed as the father rising from his chair, lifted the thimble and disclosed a small pill of concentrated nourishment on the chip before him. Christmas turkey, cranberry sauce, plum pudding, mince pie—it was all there, all jammed into that little pill, and only waiting to expand. Then the father with deep reverence, and a devout eye alternating between the pill and Heaven, lifted his voice in a benediction. At this moment there was an agonized cry from the mother. 'Oh, Henry, quick: Baby has snatched the pill!' It was too true. Dear little Gustavus Adolphus, the golden-haired baby boy, had grabbed the whole Christmas dinner off the poker chip and bolted it. Three hundred and fifty pounds of concentrated nourishment passed down the esophagus of the unthinking child. 'Clap him on the back,' cried the distracted mother. 'Give him water!' The idea was fatal. The water striking the pill, caused it to expand. There was a dull rumbling sound, and then, with an awful bang, Gustavus Adolphus exploded into fragments. And when they gathered the little corpse together, the baby lips were parted in a lingering smile that could only be worn by a child who had eaten thirteen Christmas dinners."

Practical Notes.

Effect of Nicotin. Experiments with nicotin injected into a hen's egg (five-tenth milligramme) show that it either kills the embryo or stunts its growth if it survives.—*Comptes Rendus Soc. de Biol.* Jan. 12, 1895.

Surgery of the Brain.—Postempski described, before the Congress of Surgery at Rome, in October, the results of sixteen craniotomy cases treated last year, and concluded that where there are accidents preceding, with tangible injuries, surgical intervention is a great benefit, even in severe cases, but in cases of diseases without objective lesions, the operation is fruitless. In several cases of epilepsy he scraped the cortex, and wherever there were traces of previous inflammations he secured good results.—*Centralblatt f. Chir.*, February 1.

Intubation in Diphtheria.—The annual report of the Hanover Linden Hospital, commenting on the 267 cases of diphtheria treated, states that, contrary to the American idea, intubation has not been a benefit in cases of very young children, and is questionable also in many other cases, as it is apt to prevent the coughing up of the false membrane and free expectoration, thus preparing the way for pneumonia. Its many advantages in some cases are acknowledged, but tracheotomy is called the sovereign operation, after all.

Chronic Anemia Cured with Hypodermic Injections of Mercury and Quinin. The *Gazz. degli Osp. e delle Clin.* February 4, contains an account of three severe cases of anemia accompanied by nervous troubles, swollen glands, and in one case chlorosis and convulsions, completely cured with injections of bichlorid of mercury, commencing with 1 millig. a day and increased gradually to ½ centig. Each alternate day ½ gramme bichlorid of quinin was given in its place. During the day ½ gramme of bromid of sodium was taken in water into the stomach. This treatment was continued forty days and then gradually stopped. The cure was absolute in each case.

Formalin in Dentistry. Lepkowski announces in the *Przeglad Lek.*, 1895, Nos. 20 and 22, that he has found formalin very effective in cases of acute pulpitis, when even after the tooth has been filled the pain ceases in a few hours. Also after extraction of the sound pulpa, in cases of incipient periostitis, and where the pulpa is changed into an ichorous mass. He first cleans the tooth as perfectly as possible and then introduces a cotton wad dipped in formalin, which he covers with a staniol plate, on top of which he puts the complete filling. A moderate pain follows for several hours, if the nerve had not been entirely killed. Formaldehyd kills the sound pulpa completely, with no greater pain than accompanies the use of arsenic paste, with this advantage that the tooth can be filled at once, without further cleaning. He hopes that this treatment will be found all that he expects from it at present.—*Centralblatt f. Chir.*, February 8.

Nerve Suture and Neurolysis.—Wölfler reports seven cases of suture of a divided nerve for paralysis of the peripheral nerves and three cases of neurolysis, with recovery in every case except two, which are still doubtful. One was of the facial nerve after an injury. Five sutures were with direct union, one of them of the radial nerve after complicated fracture, two of the median, one of the facial, and one of the plexus cervicalis V and VI. The two indirect unions were of the radius

in one and of the peroneus in the other. These two are the doubtful ones. One case of neurolysis was in the peroneus after osteotomy, and the others of the radial nerve. Neugebauer is soon to publish a complete work on this subject.—*Centralblatt f. Chir.*, February 22.

Argonin.—The investigations of Liebrecht, Meyer and Jadassohn have established the fact that argonin, like nitrate of silver, is destructive to bacteria, and especially to the gonococcus, while it does not cauterize or burn the tissues like nitrate of silver. It has been employed with the best results in cases of gonorrhea in both sexes (in a 1 or 2 per cent. solution). It seems to lack astringent properties and therefore must be supplemented by something else in catarrhal cases. It is made by transposing casein sodium with nitrate of silver, which produces a powder soluble in warm water. To dissolve it, wet first with a very small quantity of cold water, until every particle is moistened, and then warm it on a water-bath, until it is all dissolved. Fifteen grams argonin contain as much silver as one gram nitrate of silver.—*Ther. Wochensch.* February 16.

To Determine the Amount of Alkali in the Blood.—Limbeck describes his method in the *Wien. med. Blätter*, 1895, p. 295, as follows: "It is based on the effect of free acids and alkalies on the albuminoids; 200 c.c. water is heated to the boiling point when one-tenth HCl is added and 5 c.c. blood serum is dropped in, one drop at a time. To this is added with certain precautions one-tenth solution of soda, until a flaky precipitate is deposited. By subtracting the volume of soda from the volume of acid, a standard is obtained for the amount of affinity between the serum and the acids. The blood is treated in the same way and the albuminoids play no part in the affinity, which is the special advantage of this method. This independence of the amount of albuminoids is shown by further experiments with solutions of sodium carbonate and sodium phosphate, which are substituted for different quantities of albumin. The alkali remains at the same figures, while in litmus tests the amount of alkali shows an increase with increasing albumin.—*Centralblatt f. Phys.*, February 22.

Glycerin Extract of Bone Marrow.—According to the *Medical News*, March 14, Dr. Allen McL. Hamilton strongly maintains the value of glycerin as a solvent for bone-marrow in the treatment of pernicious anemia, chlorosis and hemophilia, and that the cases in which the treatment has been unsuccessful have not been those treated by the medullary glycerid, as claimed by an editorial writer for that journal. Dr. Hamilton adds: "So far as I can learn, there is but one other writer who takes this view of the case. On the other hand there is a large number of physicians who have had the happiest experiences with the preparation originally advocated by Danforth. Since I first used the glycerin preparation (considerably over a year ago) I have never had any bad results, and nothing worse than an occasional intestinal colic; and I have given it to many anemic and debilitated people with results that have been in every way gratifying. Of course there are poor preparations, for the process of maceration of the bones and extraction of the marrow is a laborious and slow one, and the temptation to manufacture weak products is very great."

Cantharidate of Potassium in the Treatment of Cutaneous Tuberculosis.—The *New York Medical Journal* quotes from the *Annales de Dermatologie et de Syphilogie*, a case of cutaneous syphilis in the right hand and wrist. At the time of beginning the treatment with the cantharidate of potassium there was no albumin in urine, and the formula for the injections used in the case by the practitioner, Dr. Gaston Branthomme, was the following: Cantharidate of potassium, 0.0015 of a grain; cocain hydrochlorid, 1.5 grain; distilled water, 150 grains. Eight injections of a cubic centimeter each were made up to the 4th of June (a period of two weeks), another of two cubic centimeters was given on the 12th of June. The punctures were rather painful and an abscess formed around one of them. The first two injections were followed by a rise in temperature to 103 degrees and 102.1 degrees F. There was a local reaction which manifested itself by a rather copious exudation. This, however, did not occur at the third injection, and cicatrization took place very rapidly. At no time, says the author, when the urine was examined was there any trace of albumin found. At the present time cicatrization is perfect, and the patient is in excellent health.

Diabetes Treated by Pancreas Extract.—The *British Medical Journal* quotes Dr. Bormann, of Vienna, as holding to the view that pancreas may be successfully exhibited in those cases of diabetes that are caused by an atrophic condition of gland. This treatment is a form of therapeutics by substitution. Bormann records a case in which a definite result was obtained by pancreas therapeutics. The patient was a man of 30, who had for many years suffered from general symptoms, with cough and furunculosis. Physical examination showed the condition to be one of diabetes mellitus, with chronic bronchitis and visual complications. About 3,600 c.c. of urine, having a specific gravity of 1035–1048, and containing 400 grammes of sugar, were passed daily. For twenty-four days he was treated first by dieting alone, then with the addition of apomorphin, salicylate of bismuth and opium. These reduced the quantity and specific gravity somewhat; the amount of sugar fell from 30 to 110 grammes daily, but the patient lost weight. He was then put on one ox's pancreas (roasted); after a week he stated that he could not go on eating it, so the juice was expressed and given daily per rectum. Ten days later $1\frac{1}{2}$ c.c. of pancreas extract subcutaneously was substituted for this. When he left the clinic after five weeks' pancreas treatment the sugar was below 30 grammes daily, the minimum being 14.6. The patient was much better in himself, his bodily strength had considerably increased, he had gained eight and one-half pounds in weight, and the thirst, together with the daily excretion of urine, had greatly diminished.

The Reprehensible Heroism of Freeing a Diphtheritic Obstruction by Suction.—The *British Medical Journal*, February 29, mixes mild blame with reluctant praise in a case of this kind: Dr. Ernest Helby, resident medical officer at the Croydon Fever Hospital, lately saved a child's life by sucking the diphtheritic membrane from its throat after tracheotomy; he caught the disease, suffered some paralysis, and was for a time in danger of death. "We are happy to say," says the *Journal*, "that he has now, under the antitoxin treatment, made good progress toward recovery. It is difficult to say the right thing when one hears another instance of this act of devotion; proverbs and texts fight in one's mind against each other, and it is hard to venture to blame him at all, and hard to praise him without a cautionary reserve: but of one thing we are sure, that he deserves and has won respect and admiration due to a man who is ready to lay down his life for a child. There is a story somewhere in history of a man who saved his country by methods of his own, which did not meet with the approval of the Government. The Government crowned him, honored him, and gave him a triumphal procession, and then executed him for breaking the law of the land. We would mix a little reproach with a great deal of praise for Dr. Helby, and tell him that other lives as well as the child's life are bound up with his own, and we hope he tried suction with a syringe before he put his lips to the tube, and did all that was possible to avoid the danger of infection. But it is pleasant to stop our criticism at this point, and to assure him of our most sincere admiration of his absolute devotion of himself to save the life of a child."

Hospital Notes.

EIGHTH ANNUAL REPORT OF THE METHODIST EPISCOPAL HOSPITAL OF BROOKLYN.—A well-composed report of 250 pages represents the work of the above named charity for the year

ended Oct. 31, 1895. There has been an increase of the number of beds and amount of work, compared with the previous year; seven more pupil nurses were admitted to the training department, nearly two hundred admissions above 1894, and 1,000 more hospital days. Five of the nine buildings belonging to the original plan have been completed, a sixth will be added in the coming year; leaving one-third to be gradually reduced as the "sinews of peace" become active. Expenses were $45,000, receipts $45,500; endowment funds yielded $9,000; pay of patients $13,000; gift of city for ambulance and accident cases $6,000; other sources, largely by appeal to the denomination, $17,500. Total patients treated, 1,098; remaining at date of report, 76; mortality, 10.46 per cent. The rate of mortality was very nearly identical upon both medical and surgical services, but the number of surgical cases was nearly thrice that of the medical branch. Total hospital days were 25,491; average number of days per patient, 23.21; total number of non-paying days, 19,000, nearly; daily cost for food per person, $0.24; daily cost of maintenance per person, $0.66; daily cost per patient, $1.40. Ambulance service, for which the city makes an appropriation of $1,200, attended to 1,132 calls, an increase of 139; one-third of the cases received treatment in the hospital. The dispensary department, which had been closed about four years, has been reorganized, having been formally opened in November, 1895. An operative surgical clinic, open to all medical men, has been held every Wednesday. The pathologic department conducted 49 post-mortems, a trifle less than one-half the number of deaths reported. The training school for nurses had a graduating class of eight.

Detroit Notes.

The Wayne County Medical Society, at its regular meeting, March 19, listened to an interesting paper by Dr. Jay W. Morrison, entitled, "Experiences in the Late Smallpox Outbreak." The Doctor based the opinions formulated in his article upon the experience that he had had as an associate of the health officer, and also that which he had had by being brought in contact with over 200 cases in the last two years. The Doctor did not consider that we had had an epidemic, and wished in several instances to take issue with the authors as to the diagnosis of smallpox and its course. The Doctor said that he did not care about using the word varioloid; he believed that the disease was communicable at any period, in its first stage or any time before the papules had appeared. He also believed and cited cases where patients had died before the papular stage had been ushered in. In his experience he had not had as good results with the hemorrhagic variety as some had reported; but he believed that it was on account of the divisions that some had made. He restricted the term hemorrhagic to that form where there was hemorrhage from the kidneys and from the intestinal tract. The Doctor did not think it was always such an easy matter to make a differential diagnosis between chickenpox and smallpox, and in this connection he mentioned, what is contrary to the leading authorities, that he had seen a number of cases of chickenpox in which the papules were found both upon the palms of the hands and soles of the feet, and the subsequent history of the cases confirmed his diagnosis of chickenpox. One point that was emphasized was that in chickenpox we do not have fever upon the first or second, but it commences upon the third day. In smallpox the fever commences upon the first day and rises to 102, 103 or 104 degrees. In chickenpox it may be nearly as high as this upon the third or fourth day, but not before. The Doctor remarked that we do have chickenpox in adults, although it is an exception. Dr. Morrison does not believe that there is any way by which the pitting of smallpox can be prevented. He had tried all forms and modes recommended and had failed, and thought by inference that the trouble was exaggerated. The course of the fever and the amount of papular eruptions could be somewhat modified by antiseptic dressings. The Doctor cited cases that had been immune from smallpox for a time without vaccination, and had subsequently contracted the disease. He remarked that he had not seen a smallpox case in the morgue with a vaccine mark; and he also mentioned a number of cases where vaccination had been made some years before and the patient came down with smallpox; that the disease ran a short course, and with these two last truths verified many times in his observation, he was convinced that the only way to stamp out the disease was to have all persons thoroughly vaccinated, and he predicted that when this was done that we would not only be rid of epidemics of smallpox, but isolated cases would be rare. The paper was discussed by Drs. W. J. Brand, D. O. Donovan, F. B. Tibbals, W. T. Cody, T. J. Parker, R. W. Gillman and E. B. Smith.

The Detroit Medical and Library Association at its regular meeting, Monday, March 16, listened to a practical paper, by Dr. A. E. Carrier, entitled, "Use and Abuse of Arsenic in Dermatologic Affections."

At the regular meeting of the Detroit Academy of Medicine, last Tuesday evening, the 17th inst., Dr. Don M. Campbell read a paper entitled, "Can Exophoria be Cured Without Operation?" After taking up historical review of the subject, he explained what exophoria is, and its relation to accommodation. All cases of exophoria, especially when associated with hypermetropia or hypermetropic astigmatism, should receive one of the following treatments: Correction of refractive error; general systemic treatment of a tonic alterative with hygienic care; gymnastic exercises of the internal recti muscles by means of prisms used after the Gould or Savage method, the former being preferable; the surgical treatment. In the majority of cases the exophoria can be cured without resorting to operation. Perhaps 5 per cent. will require tenotomy or advancement.

Health Office Report for week ending March 21: Deaths under 5 years, 38, total 96. Births, male 44, female 54, total 98. Contagious diseases: Diphtheria, last report 12, new cases 13, recovered 3, died 8, now sick 14. Scarlet fever: Last report 19, new cases 6, recovered 4, died none, now sick 21. Smallpox: Last report 3, new cases none, recovered 1, died none, now sick 2. Measles: Last report, 3, new cases none, recovered 1, died none, now sick 1.

Washington Notes.

Weekly Report of the Health Officer.—The number of deaths during the last week, according to the report of the health officer, exceeded those of the previous week slightly over 7 per cent. A review of the meteorologic conditions shows that the average temperature was at the freezing point, and that a constant range of low barometer prevailed with a high relative humidity. The death list, under these conditions, went up from 112 to 121, and the death rate from 21.2 to 22.8. During the corresponding period of last year it was 19.4.

Commissioner's Report on the Vivisection Bill.—After cutting out all sections that were not approved by the medical fraternity, the Commissioners have favorably reported the House bill 4446, for the further prevention of cruelty to animals in the District of Columbia. They recommend that the title of the bill be known as "A bill to regulate vivisection in the District of Columbia."

Medical Society.—At the Medical Society meeting held on the 18th inst., Dr. Stone read a paper on the treatment of movable kidneys. Dr. Bowen presented a ruptured tubal pregnancy, an ovarian cyst and hysterectomy for fibroids.

Washington Obstetrical and Gynecological Society.—The 243d meeting of the Society was held on the 20th inst. Dr. Geo. N. Acker reported a case of congestion of the cord with recovery, followed by typhoid fever with some interesting features. Dr. M. F. Cuthbert reported a case of post-partum hemorrhage. Dr. H. L. E. Johnson presented a working model

of the Pitkin operating table in use at the Emergency Hospital. It is constructed entirely of metal and can be absolutely sterilized. It has all the features of the Harvard chair, can be elevated or lowered two feet by a screw crank. The entire top surface is hollow, through which hot water is kept flowing from a twin spigot. The patient is thereby kept warm during prolonged operations. The table was devised and made by the engineer of the Emergency Hospital and has been in constant use during the past eighteen months.

COMMITTEE ON EPIDEMIC DISEASES.—The name of the Committee on Epidemic Diseases, U. S. Senate, has been changed to "Committee on Public Health and National Quarantine."

Louisville Notes.

PHARMACY.—The annual commencement of the Louisville College of Pharmacy was held on the 17th at Macauley's Theater. The graduating class numbered eighteen, the first honor man, H. F. Bierman, of Little Rock, Ark., received 543 in his final examination out of a possible 570, the highest average ever received at the college.

ACADEMY OF MEDICINE.—This Society held an open meeting in their rooms at the College of Pharmacy Building, the occasion being a popular lecture by Prof. E. H. Mark, Superintendent of the Louisville Public Schools, formerly Professor of Physics and Chemistry in the Boys' High School. The subject of the lecture was "The Roentgen Rays," and Professor Mark spoke very entertainingly and instructively upon heat, light, and electricity, gradually leading up to the subject of the X rays. He paid a glowing tribute to the discoverer of the Crookes tubes, and exhibited the tube with which Professor Marple has been able to take the successful picture of the bullet imbedded in the hand of a patient at the University Dispensary, afterward removed by Dr. W. O. Roberts.

SMALLPOX.—State Sanitary Inspector Long has been sent to Sulphur, Ky., to investigate a rumor that there is an outbreak of smallpox at that place. Sulphur was the home of the patient who died last week at the Eruptive Hospital. There were several large families exposed to this case before his isolation, but the timely vaccination of everyone in the neighborhood by Dr. White, has limited its spread. Threee houses are flagged with the yellow flag, containing eight cases of varioloid. Dr. Long on his return, reported the outbreak at Sulphur, supposed to be smallpox, was varicella.

MEDICO-CHIRURGICAL SOCIETY.—This Society was entertained by Dr. S. G. Dabney on the 20th inst., his essay being upon the "Etiology, Prognosis and Treatment of Acute Middle Ear Disease."

THE PUBLIC SERVICES.

Circular No. 1.

WAR DEPARTMENT, SURGEON GENERAL'S OFFICE,
WASHINGTON, March 13, 1896.

To secure uniformity in carrying out the provisions of G. O. No. 9, Adjutant General's Office, March 13, 1896, medical officers will be governed by the following general directions:

The instruction necessary to enable company officers to drill the enlisted men of their companies "in the duties of litter bearers and methods of rendering first aid to the sick and wounded" will be given chiefly by practical demonstrations, made in their presence, of the litter drill and methods of rendering first aid.

The prescribed drills of company bearers and of the detachment of the hospital corps should be utilized for this purpose. Especial attention should be given to the instruction in first aid to the sick and wounded, and the practical demonstrations should include methods of arresting hemorrhage, of applying the dressings contained in the first aid packet, of immobilizing a fractured limb, of resuscitating those apparently drowned, etc.

These practical demonstrations should be accompanied by full explanations of the reason for adopting the methods recommended. The practical instruction should be supplemented by lectures designed to convey all essential information with reference to the anatomy of bones and blood vessels; the causes and treatment of syncope and of heat exhaustion; the differential diagnosis and treatment of sunstroke; the rationale of the various measures of first aid to the sick and wounded, etc.

It is the intention that in time of war every officer and enlisted man shall carry a first aid packet, to be furnished by the medical department. These packets will be obtained by the surgeon of each post, upon special requisition, and will be supplied by them to company commanders for purposes of instruction. The allowance for this purpose will be twenty packets for each company of infantry, battery of artillery or troop of cavalry. The dressings contained in these packets can be used repeatedly for the practical instruction of officers and enlisted men, and after being used for this purpose should be made up into packets of the original form. These packets are expendible, but great care should be exercised to prevent any unnecessary expenditure, and officers will be held strictly accountable for their proper and economical use for the purpose indicated.

The drill regulations of the hospital corps will be revised, as soon as practicable, to make them conform with authorized changes in the equipment of members of the hospital corps (absence of side arms) and in the litter (detached litter slings).

GEO. M. STERNBERG,
Surgeon General, U. S. Army.

Approved:
DANIEL S. LAMONT, Secretary of War.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the three weeks ending March 21, 1896.

Asst. Surgeon J. C. Rosenbleuth, detached from the naval laboratory and ordered to the "Raleigh."

Asst. Surgeon F. M. Shipp, detached from the "Raleigh" and ordered to the "Vermont."

Surgeon P. M. Rixey, ordered to the naval dispensary, Washington.

Asst. Surgeon H. La Motte, detached from the naval hospital, Chelsea, Mass., and ordered to the receiving ship "Franklin."

Surgeon G. E. H. Harmon, detached from the naval dispensary, Washington and ordered to the naval academy.

P. A. Surgeon C. H. T. Lowndes, ordered to the Washington navy yard.

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the sixteen days ended March 16, 1896.

Surgeon J. B. Hamilton, granted leave of absence for four days, March 16, 1896.

Surgeon Fairfax Irwin, to inspect Service at Havana, Cuba, and quarantine stations in the South, March 2, 1896.

P. A. Surgeon P. M. Carrington, granted leave of absence for thirty days, March 16, 1896.

Asst. Surgeon J. A. Nydegger, to report at Bureau for instructions, March 6, 1896. To proceed from Washington, D. C., to South Atlantic Quarantine and assume command, March 7, 1896.

Asst. Surgeon Emil Prochazka, granted leave of absence for ten days, March 11, 1896.

BOARD CONVENED.

Board to examine and report on schedule of subsistence for seamen on merchant vessels of the United States, to meet in Washington, D. C., March 16, 1896, Surgeon P. H. Bailhache, chairman; P. A. Surgeons C. E. Banks and J. J. Kinyoun, recorders.

Change of Address.

Ambler, C. P., from Canton, Ohio, to care The Winyah Hotel and Sanitarium Co., Asheville, N. C.
Ash, E. E., from Chicago, Ill., to Goshen, Ind.
Bouton, W. C., from 131 53d St. to 320 E. 57th St., Chicago.
Craig, S. S., from Chicago, Ill., to Alamosa, Colo.
Dickson, W. L., from Rust Point to 208 Edwards St., Shreveport, La.
Houghton, E. F., from Claremont to Rochester, N. H.
Ingals, Ephraim, from 34 Throop St. to 4753 Grand Boul., Chicago, Ill.
Ingals, E. Fletcher, from 509 W. Adams St., to 4757 Grand Boul., Chicago, Ill.
Legge, J. H., from Pittsburg, Pa., to Aurora, Preston Co., W. Va.
Motter, Murray Galt, from Lancaster, Pa., to Head of 30th St., N. W., Washington, D. C.
Paquin, The Paul, Laboratories, from 1635 S. Grand Av. to 3536 Olive St. St. Louis, Mo.
Perkins, Jay, from 416 Broad St. to 78 Broad St., Providence, R. I.
Phillips, Ellis, from 424 Mulberry St., to 711 Madison Av., Scranton, Pa.
Prince, L. H., from 1348 N. Halsted St. to 51 Lincoln Av., Chicago, Ill.
Small, L. M., from St. Louis, Mo., to Decorah, Iowa.

LETTERS RECEIVED.

Alta Pharmacal Co., St. Louis, Mo.; Allport, Frank, Minneapolis, Minn.; American Therapeutic Co., New York, N. Y.

Bell, Frank, Palm Beach, Fla.; Barr, G. Walter, Quincy, Ill.; Birney, E., Greene, Iowa; Byall, H. M., Montpelier, Ohio; Bishop, S. S., Chicago, Ill.; Berry, J. T. B., Blandon, Miss.; Breedlove, J. W., Fort Smith, Ark.; Bovée, J. Wesley, Washington, D. C.; Boal, V. M., Auburn, Neb.; Brown, F. F., New York, N. Y.; Bryant & Douglas Book and Stationery Co., Kansas City, Mo.; Busey, S. C. (3), Washington, D. C.

Cochran, Jerome, Montgomery, Ala.; Cochran, R. W., Madison, Ind.; Cram, F. W., Sheldon, Iowa.

De Lee, J. B., Chicago, Ill.; Doliber, Goodale & Co., Boston, Mass.

Eddy, C. W., Marietta, Ohio; Editor Therapeutic Notes, Detroit, Mich.; Eve, Paul F., Nashville, Tenn.

Fisher, John C., Warsaw, N. Y.

Gardner, R. W., New York, N. Y.; Gihon, Albert L., New York, N. Y.; Goss, F. W., Roxbury, Mass.; Grandy, Luther B., Atlanta, Ga.; Greeley, Jas. T., Nashua, N. H.

Henrotin, F., Chicago, Ill.; Heuel, Emil, New York, N. Y.; Hines, W. Frank, Chestertown, Md.; Hummel, A. L., Advertising Agency (2), New York, N. Y.

Jackson & Co., Thos., New York, N. Y.

Keiper, Geo. F., Lafayette, Ind.; Kimneman, A. S., Cleveland, Ohio.

Layman, S. J. (2), Tamaroa, Ill.; Legger, Jos., Huronia Beach, Mich.; Lewis, W. C., Boston, Mass.; Lusk, Z. J., Warsaw, N. Y.

McDougal, J. G., New Lexington, Ohio; McDonald, W. B., Baltimore, Md.; McKee, A. B., Edwardsville, Ill.; Mills, Harry Brooker, Philadelphia, Pa.; Moss, T. R., Dyersburg, Tenn, Munson, E. L., Fort Assiniboine, Mont.; Myers, H. L., Danville, Va.

Parmele, Chas. Roome, Co., New York, N. Y.; Pantagraph Printing and Stationery Co. (2), Bloomington, Ill.; Perrins, E. K., Philadelphia, Pa.; Pettengill & Co., Boston, Mass.

Reed & Carnrick, New York, N. Y.; Register & Montgomery (Drs.), Charlotte, N. C.; Rochelle, W. F., Jackson, Tenn.

Savage, G. C., Nashville, Tenn.; Scott, N. C., Cleveland, Ohio; Small, Edw. H. (2), Pittsburg, Pa.; Smith, C. J., Pendleton, Ore.; Smith, Allen J., Galveston, Texas; Smart, Chas., Washington, D. C.; Straycorn, J. M., Bartlett, Texas; Stilson, C. F., Battle Creek, Mich.; Stockley, Wm. S., Millboro Springs, Va.

Thorner, Max, Cincinnati, Ohio; Thompson, J. Walter, Chicago, Ill.; Thornton, Wm. M., Charlottesville, Va.; Trautwein, C. W., Kinderhook, Ill.; Tucker, R. D., Fine Creek Mills, Va.

Waggoner, Joseph, Ravenna, Ohio; Whitaker, Alfred E. (2), Boulder, Colo.; Wilson, J. H., Dover, Del.; Wood, J. W., Long Beach, Cal., Würdemann, H. V. Milwaukee, Wis.

Zeigler, S. L., Philadelphia, Pa.; Zumo Pharmacal Co., St. Louis, Mo.